



INSIDE DOPE

by GEORGE F. TAUBENECK

**What Starts Wars
Committees Can't Agree
Take It Easy
Fanatics Are Always Intolerant
This Is True
What's HIS Angle?
Tell-Tale Clues**

What Starts Wars

Over-conscientious reformers whose hearts bleed for "the poor" always have a plan to make life more pleasing for "the downtrodden."

It's not "a" plan, but "the" plan. These "do-gooders"—and they alone—know what to do to ameliorate the sad plight of every distressed person they've ever heard about.

Trouble is, these reformers become so enamored of their own plans that they become intolerant of competing formulas, and are entirely unresponsive to the thought that well-established, enduring relief agencies can take care of all the "unfortunates" in one way or another.

Rabid "do-gooders," despite their protestations of fealty to the work-hard-to-get-ahead system, usually transmute and degenerate into petty dictators after they are delegated a *sous-pçon* of authority. If they succeed in getting their plans adopted, they become merciless tyrants so long as they are in power. Their Plan amorphaizes into a Sacred Gospel.

How can we mitigate their excesses without forfeiting their energies and zeal? That's a pertinent question. Let's explore its ramifications.

Committees Can't Agree

No matter how selfless may be the original motive of a reformer, he should admit that when he works with a committee, its members are likely to disagree as to methods, purposes, and details.

All reformers have to work through committees, however. They can't go it alone.

Isn't it the height of arrogance, then, to presume that any reformer's plan is the only way through which forgotten folk can secure a different shuffle-of-the-cards? When even their would-be protectors can't get together, how can any one Messiah assume that he is the appointed Light of the World?

If the above questions aren't presumptuous, obviously they phrase a candid truth. All scholarly historians will admit that militant redresses of grievances—staged by mad characters who assume that they are the Law and the Prophets—often backfire upon innocent bystanders.

Conscientious reformers might be better off if they were more patient. In their eagerness to cauterize a poisoned area, they may kill the patient.

Take It Easy

History supports the righteousness of tolerance, and honors the patient philosopher. The most enduring reforms are those which evolve slowly.

Let's take the Christian Era, as a sample. Many times since Christ bled to death on the Cross, so-called Christians have tortured unbelievers, and have inspired and financed Holy Wars against infidels.

These unfriendly demonstrations of perverted idealism were so unchristian as to be positively Satanic.

Yet, "conscientious" members of Christendom supported these bloody, sadistic nightmares because they were led to believe that they were

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Housewares Show Crowds See Exhibits By 500 Producers

By John O. Sweet

CHICAGO—Some 5,000 buyers and others streamed through the North and South halls of the Navy Pier here the first three days of the National Housewares & Home Appliance Manufacturers Exhibit to see what was being offered by the more than 500 producers who displayed their wares.

Attendance by early afternoon of the opening day (Jan. 13) had passed the 2,250 mark. By about the same time the following day, in excess of 1,600 more had toured the displays. Third-day registration was reported as about 1,000.

Although nothing radically different in the way of new products was observed, several new models were shown for the first time. In general, prices seemed to be holding firm.

Being demonstrated by the KitchenAid Div. of The Hobart Mfg. Co., Troy, Ohio, was its new automatic home dishwasher. This machine, which is scheduled to go into production about March 1, will be priced

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Newton Named Sales Director at Acme

JACKSON, Mich.—K. A. Weatherwax, vice president and general manager of Acme Industries, Inc., has announced the appointment of Alwin B. Newton as director of sales for Acme.



Alwin B. Newton Honeywell Regulator Co. as manager of the refrigeration division.

Landers, Frary, Clark Plans Remain Mystery

NEW BRITAIN, Conn.—Officials of Landers, Frary & Clark here declared that they were "unable to make any statement at this time relative to plans for marketing a refrigerator," in answer to a query put to them relative to trade rumors that the firm would introduce a refrigerator line this year.

The rumors have been to the effect that a refrigerator would be manufactured by another producer, but sold by Landers, Frary & Clark to round out their line of appliances.

Landers, Frary & Clark merchandised a household refrigerator under the "Universal" trade name in the middle thirties, but was out of the field for a number of years prior to the war.

Excise on Big Household Models May Be Dropped

WASHINGTON, D. C.—The manufacturer's excise tax on household-type mechanical refrigerators over 14-cu. ft. capacity will be eliminated if a recommendation made Jan. 12 by the Bureau of Internal Revenue is approved by the Secretary of the Treasury (approval is more or less automatic on such amendments).

Few household-type refrigerators are built in sizes over 14-cu. ft., and those that are made generally are used for commercial purposes.

ASHVE Meeting, Heating Show Open In Chicago

CHICAGO—Some 300 exhibitors and several times that many visitors were ready for the opening of the Ninth Air Conditioning Exposition—Heating & Ventilating Exposition, scheduled to start at 2 p.m. today, Jan. 24, at the International Amphitheatre here.

During this week the American Society of Heating and Ventilating Engineers, which sponsors the show, is also holding its fifty-fifth annual meeting at the Stevens hotel here, the first session at 9:30 a.m.

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McCray Introduces New Display Cases

CHICAGO—In a one-day meeting distinguished for its fast tempo and showmanship, McCray Refrigerator Co. of Kendallville, Ind., presented its policies, products, and program to some 300 distributors and their principals here Jan. 14.

Presentation was built around a mock trial of the McCray company, with its officers placed on the witness stand to defend themselves against various and sundry charges. In so doing, they introduced as "evidence" the aforementioned policies, products, and program. The judge, prosecuting attorney, counsel for the defense, and various "character" players were professional actors recruited from the Chicago company of "Mister

(Concluded on Back Page, Column 1)

Frigidaire Adjusts Prices on 2 Models

DAYTON—Frigidaire Div. of General Motors last week made price adjustments on two refrigerator models and "on the automatic washer."

The MJ-7 refrigerator is now priced at \$239.75, a reduction of \$10, and the DJ-7 is now priced at \$299.75, also a downward revision of \$10.

The Frigidaire automatic washer model now is priced at \$314.75, a reduction of \$15.

How To Sell Home and Farm Freezers When Snow Is on the Ground

(An Editorial)

WILLIAM C. CONLEY, JR., who is the dynamic sales manager for Coolerator, is a home freezer enthusiast of the first degree. (Incidentally, he says that he is quite appreciative of the effect which editorials on home freezers published by AIR CONDITIONING & REFRIGERATION NEWS have had on the development and progress of the industry.)

Conley makes a pretty good point about freezers when he talks before dealers and distributors. The point is this: Any appliance, to find a place in the home, must be able to satisfy at least one—and preferably several—of the following requirements:

Does it elevate the living standard?

Does it lower living costs?

Does it save time?

Does it save labor?

Does it pay for itself from savings?

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Many Dealers Back Need for Revision In Regulation W

DETROIT—Henry Kaiser's blast against the Regulation W consumer credit regulations has won considerable following in the appliance field, but not all want the restrictions completely abolished.

Most sentiment seems to favor 10% down and 18 or even possibly 24 months to pay on appliances covered by the regulation.

Appliance retailers seem pretty generally agreed that the Regulation W restrictions have hurt. An official of Good Housekeeping Shops in Detroit, which has a chain of 13 appliance stores, points out that "Detroit is a factory workers' town, and they simply can't manage the 20% down payments for appliances."

Figures compiled by the Detroit appliance dealers association show that in the final quarter of 1948 refrigerator sales were down 38% from 1947, washers off 23%, and ranges 28% under the 1947 figures. Credit restrictions get a big share of the blame.

The credit restrictions are also

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AC Promotion at G-E Headed by McKay

BLOOMFIELD, N. J.—E. S. McKay has been named advertising and sales promotion manager of the General Electric Co.'s air conditioning department here, H. B. Donley marketing manager of the department, has announced.

McKay had been assistant to the manager of employee and community relations in the G-E apparatus department at Schenectady.

McKay came to General Electric in 1933.

In December, 1945, he was named manager of the district and distribution division of the advertising and sales promotion division, G-E apparatus department, at Schenectady. In November, 1947, he was named to the post he held before the present appointment.



E. S. McKay

Redesigned Line Shown to Philco Distributors

**Style Emphasis In Freezer,
Refrigerator Models Placed
On Space-Saving Methods**

PALM BEACH, Fla.—Emphasizing low prices, newly designed Philco refrigerators, freezers, air conditioners, and television sets were shown to distributors and key dealers here Jan. 5-8, and again in Los Angeles Jan. 13-15. District meetings are now being conducted by distributors and branches.

Big news in the freezer section was the redesign of the former 2½-cu. ft. freezer into a 4-cu. ft. job to sell at \$189.50. Model DH-41 has the same external dimensions as the 2½-cu. ft. model it replaces. This has been accomplished with thinner walls, a new type of insulation, vertical breaker strips, an aluminum liner, and a new vertical plate condenser which rises almost the full height of the rear.

By means of a similar redesign, the former 5-cu. ft. freezer now contains 8 cu. ft. of storage space. This model DH-81 will list at \$259.50. Lift-out baskets are provided as optional equipment.

These freezers feature a temperature control for "sharp freezing" or "zero storage"; a counterbalanced

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Am. Refrigerator Cuts Freezer Prices

MINNEAPOLIS—American Refrigerator Corp. here, manufacturer of home freezers and domestic and commercial refrigerators, has made price reductions ranging from 5 to 10% in its 1949 home freezers in the 8, 15, and 22-cu. ft. models, it is announced by R. H. Dreher, president.

American is adding 14 and 17-cu. ft. upright home freezer models to its

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Brownson Gets New Westinghouse Post

MANSFIELD, Ohio—Appointment of I. Frank Brownson, formerly manager of the laundry equipment department of the Westinghouse electric appliance division, as manager of major appliances, a new post, has been announced by T. J. Newcomb, division sales manager.

"The new position that Brownson

(Concluded on Back Page, Column 1)

Victor 5-Year Warranty Program Takes Effect

HAGERSTOWN, Md.—Victor Products Corp., here has announced a five year warranty program which will go into effect on a '49 model Quickfreeze, frozen food display cabinets, milk coolers, and beverage coolers using hermetic units.

J. K. Noel, Jr., vice president in charge of sales, stated, "The five year warranty has become as much a part of the equipment as the steel from which the cabinet is made. The commercial refrigeration market is now looking for this coverage in the same manner as the domestic market. We feel our five year warranty program will prove to be a valuable sales stimulant to Victor's distributors and dealers in '49."

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'CUT OUT UNFRANCHISED DEALERS!'

Speakers at NARDA Panel Urge Mfr. Mfr. 'Protection'

CHICAGO—"Your franchises are worthless . . . unless you have positive assurance from the manufacturer that they will be improved drastically, that the number of dealers will be reduced, that the discounts will be bettered, and that the unfranchised dealers will be totally eliminated."

So Karl J. Daubert, Daubert Electric Co., Louisville, Ky., declared at the panel discussion on dealer franchises during the recent first annual meeting held here of the National Appliance & Radio Dealers Association.

Other members of the panel were Julius Kovach, Paramount Good Housekeeping Shop, Racine, Wis., chairman, and H. N. Light, Light's, South Bend, Ind.

"This remodeling of present franchises must originate at the factory or manufacturing level," Daubert said. "It cannot come from the distributor level. It has not been satisfactorily controlled by the distributor in the past and will not be in the future. . . ."

"This is what our national organization can do: They can approach one large manufacturer and sell them on the idea of sending a qualified, trained, and experienced factory representative into the field to make an analysis of the number of present

dealerships as compared with pre-war dealerships.

"This factory representative could study potential business and dealer coverage. He could also talk to dealers in order to get a feel of what goes on in the territory. I firmly believe the present-day distributors are not qualified to relay to the manufacturers a true picture of the problems of the dealer in the field."

'It's Up to the Factory'

"I can only speak intelligently about my own territory, but I do feel that the same or similar problems are occurring in all other areas. I believe only the factory can solve the terrible problem of the unfranchised dealers who, in Louisville, far exceed in number those of us who blindly go along believing we have franchise protection."

"If we could get the factory to have the distributors list those unfranchised dealers, I'm sure we would all be startled at the thousands of ranges, refrigerators, dishwashers, sinks, etc., that go out under the guise of being sold to builders, contractors, real estate operators, and friends and relatives of the above. . . ."

"To think that we dealers invest in inventory, maintain service, advertise the product, maintain qualified salesmen and display rooms, and then loose thousands of deals to our intangible competitors who invest nothing but a moment to call up and order a piece of merchandise for a friend."

"I fought like a demon when my local distributor opened a new dealer just across the street from me and another just a few blocks away. However, I could see these competitors, but I cannot see or know the hundreds of unfranchised dealers. . . ."

"It is imperative that something be done at once. We all realize that the appliance industry cannot continue to stumble along in its present condition."

'Initiate Plan with One Plant'

"Why should we all continue to operate at a small profit or break even, while the factories wait for the inevitable weeding out to take place? Why not initiate this model plan with one factory, give it publicity throughout the country in all trade publications, show the results to the other factories, and gradually bring them all into line? . . ."

Kovach, who is a director of NARDA, recommended that the association take action to the end that all franchises in the future will originate at the factory level to include radio and appliance dealers.

He also suggested that "we must ask to have representation at all future factory-distributor meetings on any and all occasions when policy and/or practices of product distribution are to be their topic for discussion so that the dealer problem in costs of doing business, servicing, advertising, etc., can be presented at their level by personal representation."

"Thus, eventually, many of the present existing evils at the retail level could be solved for the betterment of the industry as a whole and, I am sure, for far greater quantity distribution of our new large mass appliance and radio production."

Kovach noted that when the industry was born, there naturally were no established appliance dealers.

"Therefore," he recalled, "radios and appliances were sold to bicycle shops, electrical contractors, and to any and all who were brave enough to buy them for re-sale."

Says Mfr. Ignored Dealer

"Then came the distributors who were brought into the picture by manufacturers for mass distribution. The dealer was left out of the picture completely as far as the manufacturer was concerned. The dealer then became the problem child of the distributors."

"These distributors were smart enough to organize themselves into a strong national unit for their own protection. . . ."

"Now, as exclusive appliance dealers began multiplying . . . their mass contracts and contacts were with the distributors (too few of whom were dealer-minded) and whose only thoughts were of maintaining their franchises and profits at the expense of their dealer organization."

"This still is the case with the majority of the dealer-distributor relations. So it seems to me that our salvation lies in our ability as a

strong NARDA to press home this fact to our manufacturers. . . ."

Claiming that "we people in the retail electrical business never have had and do not have today any franchise protection," Light told the dealers he would like to see the following put into effect:

"1. Franchises should be perpetual."

"2. One dealer for each 50,000 population."

"3. One line for each dealer for every 50,000 population."

"4. Distributors or manufacturers should not put on new dealers nor cancel out old ones without having at least three meetings with all their dealers whereby both dealer and distributor or manufacturer representative would have an opportunity to discuss his views and be given the benefit of the other person's opinion."

"These meetings should be held once a month for three months. Likewise, neither should dealers cancel franchises without going through the same procedure."

Proposal on Cancellations

"5. When cancellation is definitely decided by either supplier or retailer, the one desiring to cancel shall give the other a 30 days' written notice if the franchise has been in force not more than two years, 60 days' written notice if the franchise has been in force from two to three years, 90 days' written notice if the franchise has been in force from three to five years, and six months' written notice if the franchise has been in force more than five years."

Light said he believes that a dealer who has had a line for 10 years should have it for the rest of his life if he so desires.

He also called for legislation whereby a manufacturer of electrical appliances would manufacture only, a distributor distribute only, and a retailer retail only. He further recommended:

That a retailer must have a service department in the same building where he retails electrical appliances, with the service department at least one tenth the floor space of the appliance department or store.

That utility companies shall not retail.

That every appliance for consumer use must be purchased or sold through a retailer "who is spending 100% of his time selling, servicing, promoting, and perpetuating the sale of electrical appliances."

Cites Recent Improvements

During the floor-discussion period, one dealer commented that although he was for needed franchise improvements, "in all fairness someone should state the facts as the picture has changed." He then cited examples of recent improvements initiated by some companies (price protection, service, etc.), pointing out that NARDA has had its place in bringing about these changes.

Another retailer echoed the same sentiment, adding that "if we give the manufacturers volume, we'll have no trouble with franchises."

A third dealer took exception to Light's recommendations regarding franchise legislation. He branded these proposals as "planned economy in a free enterprise system."

One of the panel members observed that "as sales drop, we must have a bigger margin or a bigger territory if we are to maintain our profit."

Referring to a dealer's report—made during an earlier panel—that major dealers in Oakland, Calif., are following where possible a policy of only 90 days' free service, a lady remarked that such "isolated" cases "don't make sense to a woman." She said guarantees must be national in scope, such as is the case in the automotive industry.

'Clean Up Dealer Practices'

Another dealer rose to declare: "The practices I'd like to see cleaned up in this industry are at the dealer level." Among other things, he mentioned price cutting and non-servicing outlets. He also cautioned the dealers against trying to "force" their objectives on manufacturers and suggested following a policy of cooperation through negotiation.

Still another comment from the floor was to the effect that some manufacturers are aware of "abuses" by their distributors. He said he was told that one producer is sending a representative into the field to investigate this situation.

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Norge Announces Prices On 3 Appliance Lines

CHICAGO—Prices on 1949 Norge refrigerator and electric range lines, as revealed during the winter marts here, are as follows:

Refrigerators	
Model	Price
S-649	\$219.95
R-849	259.95
HD-849	289.95
SD-849	309.95
SDF	339.95
R-1049	329.95
SD-1049	379.95

Electric Ranges	
Model	Price
E-408	\$199.95
E-428	259.95
E-448	299.95
E-458	319.95

In the home freezer line the vertical model, HF-6, retails at \$329.95. Chest-type model HF-12 is priced at \$439.95 and HF-20 at \$575.

G-E Seeks To Stop Dealer From Cutting Set Prices

NEW YORK CITY—A temporary injunction to restrain Masters Mart, Inc. at 66 W. 45th St. here from selling General Electric small appliances at less than established minimum prices and thereby violating the state fair trade law is being sought by the General Electric Co.

The manufacturer charged that Masters Mart was selling some of its small appliances at \$9.16 and \$11.96 less than the fair traded price.

New Products at Housewares Show--

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between \$290 and \$300, a spokesman said.

The line will reportedly include three models: KD10, the unit only, for built-in installations; KD-20, a cabinet model for individual installation; and KD30, a complete cabinet-sink-dishwasher combination.

The counter-height, front-opening machine is said to accommodate complete service for the average family in one operation. Completely automatic in all cycles, the unit is equipped with an auxiliary manual cycle control.

Other announced features: centrifugal pump circulates water through revolving wash arm as in Hobart commercial models; power rinse; automatic forced hot air for drying; opening door automatically shuts off wash or rinse without interrupting time cycle; two independent racks for loading.

NEW TAYLOR WASHER

The Taylor Corp., Alliance, Ohio, introduced a 4-lb. capacity "space-saving" electric washer "built especially for use by the kitchen sink or stationary tubs." Called the Taylor Senior, the machine has a full-swivel wringer with 10-in. rolls of standard diameter, an all-aluminum white enamel tub, cast aluminum agitator, and a fan-cooled motor.

Price of the Taylor Senior was given as \$59.95. The company also showed its Taylor Junior, an apartment-size, 2-lb. capacity washer retailing for \$49.95.

On display in the space occupied by Climax Machinery Co., Indian-

apolis, was a new three-speed evaporative room cooler with blade-type fan. Designed to handle one or two rooms, the cooler has adjustable extension panels to fit windows up to 39% in., with extra-wide panels available.

Dimensions are 20 in. high, 23% in. wide, and 10% in. deep. Features are said to include an improved water-drip system, adjustable vertical and horizontal louvers, walnut brown hammered baked enamel finish plus waterproof coating inside, and steel plate construction. Price of the cooler is \$59.95.

Climax also showed its redesigned evaporative-type home cooler with pressure-type blower wheel (three models priced at \$129.50, \$149.50, and \$179) and its B-22 window-type home cooler (one-speed model, \$79; two-speed model, \$99), D-16 room cooler (\$54.95), and attic fans.

Emerson Electric Mfg. Co. exhibited four new models in its six-model 1949 line of 16, 20, 24, and 30-in. window fans. Prices of the line range from \$54.50 to \$118.50.

The new models include a two-speed unit with a 16-in. window fan, ivory finish, and adjustable panels (\$64.50); a similar unit with a 20-in. window fan (\$84.50); a two-speed unit with a 24-in. belt-drive exhaust fan for wall, window, or attic installation (\$99.50); and a two-speed unit with a 30-in. belt-drive exhaust fan for like installations (\$118.50).

Visitors to the Berns Mfg. Corp. (Chicago) booth saw three new models: a filtered air blower with adjustable side panels (26 to 38 in.) listing at \$69; a deluxe, three-speed

floor circulator priced at \$38.95; and a swivel-type electric heater fan with a list of \$17.95.

A spokesman said the company's reversible window ventilator is now offered with a fiberglass filter adapter as optional equipment. This unit is produced in three sizes retailing for \$25.70, \$31, and \$50. Prices of the filter adapters are \$5.95, \$7.95, and \$9.95.

It was also announced that Berns has redesigned its built-in type, automatic kitchen ventilating fan.

Berns prices were quoted as f.o.b. Chicago, and do not include the 10% Federal excise tax.

New at the exhibit of Schwitzer-Cummins Co., Indianapolis, was a 10-in., single speed, adjustable window fan which retails for \$17.45. The company has just introduced a seven-model line of "Attic-Pak" fans for horizontal installation, according to a representative. Fan diameters range from 24 to 42 in. and the prices from \$116.60 to \$166.60, including automatic ceiling shutters.

FASCO CIRCULATOR BOWS

Occupying the front spot in the booth of Fasco Industries, Inc. (formerly F. A. Smith Mfg. Co., Inc.), Rochester, N. Y., was a new "Lo-Level" circulator priced at \$39.95. Production of this unit, which has a parabolic cone, aluminum "high-diffusion" blades, an aerodynamic cone, and a louvered cabinet, is scheduled for Feb. 1.

Kisco Co., Inc., St. Louis, took advantage of the show to introduce four new "Circulair" models. They are the "Utility," with the circulator mounted under a stand; the "Adjust-Air," which has an adjustable tilting top; a model which is said to wash, cool, and circulate air in summer and humidify it in winter; and the "Handi-Table," a model with the circulator located beneath a two-shelf stand.

Respective prices of these models are \$49.95, \$59.95, \$64.95, and \$72.95. Other models in the 1949 line are priced at \$22.95, \$36.95, \$42.95, \$72.95, and \$75.95.

A hassock-type circulator recently added to its line was displayed by LeJohn Mfg. Co., Huntington, W. Va. Retailing for \$39.95, the unit has a four-position switch—the fourth position cutting in a nichrome heating element.

\$11.95 'FANETTE' SHOWN

Fresh'nd-Aire Co., a division of Cory Corp., was showing its new "Fanette," which is priced at \$11.95. The model has a pastel green plastic case is 9 in. wide and 10 in. high, and weighs 2% lbs.

Refrigerator storage containers made of "Styron" plastic attracted the interest of buyers visiting the booth of Ruzak Industries, Inc., New York City. The company makes a 4-in. by 4-in. box (29¢), a 4-in. by 8-in. box (49¢), a "junior" crisper (\$2.39), a large crisper (\$5.95), and a cheese preserver (\$2.95).

A four-piece set consisting of two 4-in. by 4-in. boxes and two 4-in. by 8-in. boxes in a basket tray is offered for \$2.39. Ruzak also produces an ice cube tray priced at \$1.19.

Hutzel Mfg. Co., Long Island City, N. Y., also was showing plastic (Styron and Lustron) food containers. A large "Crisp-Master" sells for \$4.50 and a three-piece refrigerator set for about \$1.20, according to a spokesman. The containers are available in either clear or opaque white plastic.

DISPLAY PORTABLE WASHERS

Naxon Utilities Corp., Chicago, was displaying its portable washers. Three models are now being produced: model KH, \$47.50; model FM, \$49.50; and model SDL, \$55.

Among the "Handyhot" electrical appliances brought to the show by Chicago Electric Mfg. Co. was the newest model in its line of portable washers, a stainless steel unit with timer which is said to wash up to 3 lbs. of dry clothes. It retails for \$39.95. Other models are priced at \$26.95, \$29.95, and \$36.95.

"Something different" in toasters was introduced by Russakov Co. of America, Chicago. Its "Visimatic" toaster has a transparent, heat-resistant glass cover open at one end. Toast is ejected through this open end onto a slide-out tray or plate. Retail price: \$22.50.

Lostro, Inc., Cincinnati, was telling buyers about the electric blanket it introduced last fall. Priced at \$39.95, this blanket has an automatic dual inner control. This means, the company explains, that "each blanket has two heating areas, each controlled by the body that occupies it." The blanket has eight thermostats.

Gerald Hulett To Direct Jacobs' Launderall Sales

DETROIT—Appointment of Gerald Hulett as director of sales in the appliance division of F. L. Jacobs Co.,

was announced recently by Rex C. Jacobs, president. He will be in charge of sales of the Launderall automatic washing machine.

Prior to joining the Jacobs firm Hulett was vice president in charge of sales for Electromaster Inc. He started with Elec-



Gerald Hulett

tromaster in 1930, serving successively as district manager, sales promotion manager, sales manager, and finally as vice president in charge of sales.

From 1937 to 1939 he was a regional manager for Bendix Home Appliances, Inc., where he helped set up that company's national distributor organization before returning to Electromaster.

American Refrigerator--

(Concluded from Page 1, Column 5)

line. It is offering household refrigerators in two models, the 4.5-cu. ft. (gross capacity) apartment or small kitchen model, and the 9-cu. ft. (gross capacity) family size.

In its commercial line, a new dry-type forced-convection cooling bottle cooler has been added. The ice cream and frozen food commercial display cabinets now have a finger-touch roller action door with sealed "Twindoor" glass, and a new pictorial as well as mirror-type superstructure is available.

Also added to the 1949 line is a remote as well as a self-contained ice cube maker with an automatic tray filler which fills by inserting the tray into the tray filling slot.

Kenneth M. Mackenzie has joined the company as chief engineer. The refrigeration department is headed by Russell Norris, who has had experience with the government refrigeration projects as well as with private industry. Advertising and sales promotion is under the direction of Roy W. Lundberg, who has a 25-year background in advertising and merchandising of packaged goods, including refrigeration. Ellis Hughes is in charge of credits.

Regulation W--

(Concluded from Page 1, Column 4)

especially tough on young newlyweds, who may need the appliances badly, but just can't make the down payments.

Some retailers favor the credit restrictions, however, on the basis that "it may hurt me now, but it can keep us out of a lot of future trouble."

Wood Joins Fine Products

CHICAGO—Appointment of John J. Wood of New Orleans to represent Fine Products Co. in Louisiana, Mississippi, Alabama, and parts of Florida has been announced by the company here.

There's 40% PROFIT FOR YOU in HARDWARE REPLACEMENT

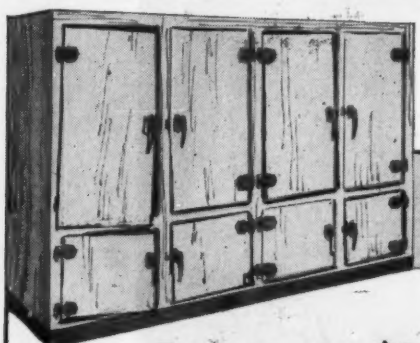
*PLUS YOUR REGULAR TIME AND SERVICE CHARGE

For a complete, satisfactory service job, check the hardware as well as the compressor. The new Grand Rapids Brass price list guarantees you 40% on replacement hardware sales, plus regular service charges. You'll make your commercial customers happy too, — because new hardware can bring new efficiency, new good looks, new operating economy to their old display cabinets, back bars, and coolers.



PREFERRED for NEW EQUIPMENT . . . PREFERRED FOR REPLACEMENT, TOO

Now you can give your service customers the identical lock preferred by leading makers for their best commercial cabinets. Available in a full range of sizes . . . all providing the exclusive, positive "living action" principle engineered by Grand Rapids Brass for lifetime performance. Equally handsome and sturdy are hinges by Grand Rapids Brass . . . made with self-lubricating Oilite bronze bearings and stainless steel pins. Get them from your jobber . . . he can supply everything you need, from massive walk-in hardware to the smaller sizes. Demand and get the genuine.



Earn up to \$24.64 on new hardware for this cabinet

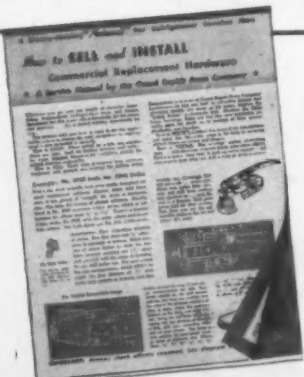
A single cabinet like this runs into real money for you! Let's figure your hardware replacement profits on this one job. There are hundreds of opportunities like this in your community!

Hardware Needed	Retail Price
8 Locks No. 4722	\$24.00
8 Strikes No. 3843	8.00
16 Hinges No. 15345	29.60

Hardware costs customer . . . \$61.60
Your cost (less 40%) . . . 36.96

Your PROFIT on Hardware . . . \$24.64

Plus REGULAR INSTALLATION CHARGE



FREE — Ask Your Jobber

This manual tells how to sell and install replacement hardware. Full directions and detail drawings. If your jobber can't supply, write direct and give us his name.

Grand Rapids Brass Company

Division of CRAMPTON MANUFACTURING COMPANY

Grand Rapids 4, Michigan

WANTED

Experienced commercial refrigeration Sales Manager to organize national distribution for new, highly efficient, beautifully designed truck refrigerating unit now ready for market. Sales background and experience this particular type of product chief consideration. Salary open.

Box 3083, Air Conditioning & Refrigeration News

Is the System Wet? Don't guess—KNOW!

DFN MOISTURE INDICATOR
tells instantly

For Freon and Methyl Chloride.
Accurate . . . fast . . . inexpensive

See your jobber or write
McIntire Connector Co.
Newark 5, N. J.

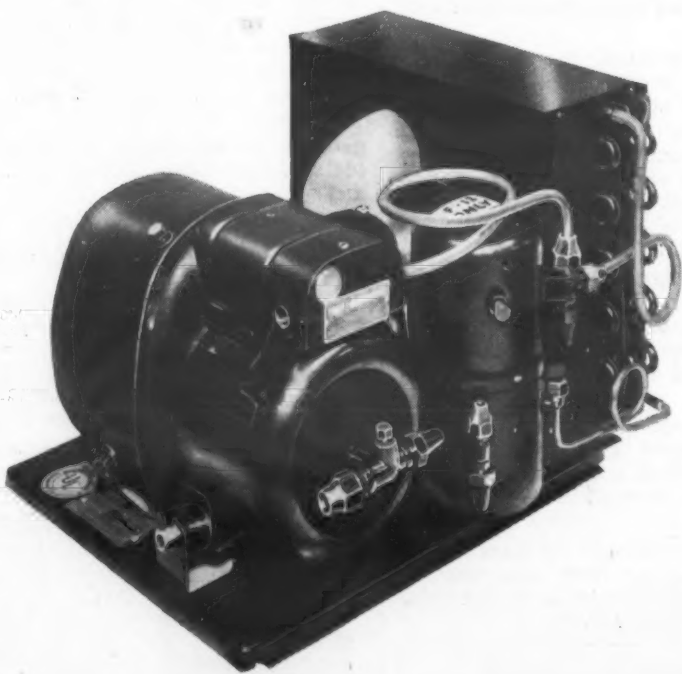


Here's your market

Refrigerated Candy Display and Storage Cabinet illustrated by courtesy of Wahlstrom Industries, 2502 Cedar Springs, Dallas, Texas. The Electric Refrigeration Division of Servel, Inc., manufactures condensing units only. These are available everywhere through prominent fixture manufacturers and dealers.



More than a hundred thousand satisfied users testify to the high quality of Servel Supermetic hermetically sealed condensing units, the broadest and most versatile line designed for every popular commercial refrigeration requirement. Sizes range from 1/4 HP through 3 HP. Illustrated is fractional HP air-cooled Supermetic.



Servel Inc.

ELECTRIC REFRIGERATION DIVISION • EVANSVILLE 20, INDIANA

Refrigerated Candy Cabinets Are "Sugar-coated" Business!

Last year the sweet tooth of the American public was satisfied by almost 3 billion pounds of candy, amounting to an average of 18 pounds per person!

A big factor in making the candy business BIG business has been the introduction of refrigerated candy cabinets . . . a real boost to impulse sales of packaged merchandise. Placed at strategic points in drug stores, confectioneries, hotels, railway and bus terminal newsstands, restaurants, taverns, clubs, theaters, super markets, and department stores . . . these modern candy venders can greatly increase sales.

The transparent display canopy of these silent salesmen of sweets puts the attractively packaged candies in full view of the customer. Yet the merchandise retains its original quality, freshness, and clean appearance because it is efficiently preserved by cool, controlled temperature in the refrigerated space. Sales continue through the hot summer months. And it's right here that an aggressive refrigeration salesman can increase his own business by selling the advantages of cooling equipment "powered by Servel."

You can take full advantage of the value-giving features offered with Servel Supermetic condensing units by going after this profitable market. And "packaged" cooling power of the Supermetic provides a perfect answer to the need for dependable, economical refrigeration. Light-weight, compact design saves valuable storage space. Hermetically sealed motor-compressor assembly is protected against the damaging effects of dust or moisture. Every moving part operates smoothly in a constant bath of special oil circulated by Servel's unique "forced feed" lubrication system.

The design of the Servel Supermetic has been simplified to eliminate complicated and troublesome mechanisms. It has no belts, seal, or couplings to cause unnecessary maintenance expense. You'll find Servel Supermetic simple to install, easy to check. For complete details, write today for your free copy of an illustrated folder "Servel Supermetic." Address Servel, Inc., Division ER, 2901-A Kentucky Avenue, Evansville 20, Indiana.



NOLIN

NOLIN—THE QUALITY LINE
Tops In ★ VALUE ★ ECONOMY ★ PERFORMANCE

Nolin Standard and DeLuxe Model Walk-in Coolers. Regular sizes or built to special order. Practical, efficient coolers constructed for long life and dependable service. Outstanding cooler values.

Nolin All Purpose Dry Beverage Cooler, America's finest. Attractive in appearance, unexcelled in operation. Equipped with three heavy duty coils, plus Freez O Rific Circulator. Has large capacity, is faster freezing and is economical in operation.

ATTENTION DEALERS—SOME TERRITORIES AVAILABLE

NOLIN MANUFACTURING COMPANY, INC.
1100 Madison Ave., Montgomery 2, Ala.

- DISPLAY CASES
- WALK-IN COOLERS
- BEVERAGE COOLERS

THE MASTER SERVICE MANUALS — — —


— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.
BUSINESS NEWS PUBLISHING CO., DETROIT

● **usAIRco** offers equipment for cooling, heating, ventilating and humidity control. The **usAIRco** line is a complete line built up through a quarter-century of experience in every phase of air conditioning. And **usAIRco** adds extra value to its pre-engineered products. For through Air-gineering it can help you specify correctly every time. Air-gineering is application engineering at its best—and with **usAIRco** it's a continuous service that gives you the engineering counsel you need at three critical times on every job—in the planning stage, during installation, and at "switch-on" time.

Why not do business with "progressive" **usAIRco**?

Wire or write United States Air Conditioning Corporation, Como Ave. S. E. at 33rd, Minneapolis 14, Minnesota

usAIRco Pre-engineered Products Air-gineered for every Application



- UNIT AIR CONDITIONER**
• Models are designed for room-sized air conditioning. Available with hot water or steam heating coils and water or steam expansion cooling coils. Combination units provide for heating in winter, cooling in summer.
Range of 7 standard sizes in cooling or heat capacity, ranging from 1000 BTU to 12,000 BTU.
Application: Restaurants, Stores, Offices, Industrial establishments.
- BLOWERS**
• **usAIRco** blowers are designed for all types of air conditioning, heating and ventilation. Engineered and performance-tested for dependability and economy in operation.
Blowers are available in a wide range of sizes and capacities for every air-handling requirement.
Application: Factories, Textile Mills, Warehouses, Public Buildings, Theaters and various specialized industrial applications.
- COILS**
• **usAIRco** offers a complete line of coils for every heating and cooling application. Steam coils, hot water and non-freeze type water coils for heating or cooling, and direct expansion coils. All **usAIRco** coils are available in a wide range of sizes to meet all heating or cooling requirements.
Application: Every place where air is conditioned by heating or cooling.
- REFRIGERATED COOLER-AIRE**
• Combines cooling and dehumidifying action, provides air conditioning and humidity control all in one balanced unit.
Operating costs are reduced by the way in which the evaporative condenser is designed to remove water. Cooling capacity ranges from 2 to 40 tons, and will operate as a heating system by switching control valve.
Application: Restaurants, Stores, Heating Alarms, Theaters, Offices.
- MOCU-AIRE**
• Individual room heating or cooling unit designed by **usAIRco** for use with central heating or cooling systems. The units are made for easy installation in existing buildings.
Controls on each unit permit regulation of temperature and volume of heat or cold with conditioned air.
Application: Hotels, Office buildings.
- EVAPORATIVE CONDENSER**
• The **usAIRco** Evaporative Condenser provides efficient cooling for condensing refrigerants. It makes possible great savings in water costs and by eliminating waste disposal problems. The Evaporative Condenser provides the most economical means of cooling refrigerant gases. In addition, Evaporative Condensers remove heavy industrial contaminants in cooling, humidifying and tempering air.



UNITED STATES AIR CONDITIONING CORPORATION
Como Ave. S.E. at 33rd • Minneapolis 14, Minn.

INSIDE DOPE

by **GEORGE F. TAUBENECK**

(Concluded from Page 1, Column 1)
right, and that all dissenters were wrong.

The Christian Religion survived the Era of The-End-Justifies-the-Means reformers because it is essentially sound. Nowadays Christianity is reverting to its original "live-and-let-live" premises.

But Communism *won't* survive, because its premises are unsound. It's a good bet that Communist fanatics eventually will cook their own goose.

Fanatics Are Always Intolerant

Missionaries for Communism (State Planning) are even more wrathful and nasty than were the early Christian fanatics. Communists stop at nothing. They pillory, torture, and murder anyone who disagrees with them. In time, their cruel zeal will be their undoing. For every action there is a reaction.

Attitude-molders of receptive schoolkids conveniently overlook the atrocities and the rapacities of Supreme State brigands like Hitler and Stalin, when they try to put over "planning" as an ideal. But the kids aren't so dumb. They'll fall for this line of propaganda if no rebuttal is issued. Given access to candid reporting, however, they are likely to form their own opinions. Our job, as fathers, is to make available the facts-of-life about Government Monopoly and its results.

This Is True

Any announcement of a Master Plan for a community, or for a nation, must be accompanied by the presence of hired policemen whose guns are unsheathed, when "economic planning" succeeds democracy.

A rugged, "unreconstructed" character who dares to say: "but my territory is different" must be eliminated, or else the Master Plan will founder.

Freedom of thought, freedom of action, and freedom of worship—the ingredients of democracy, prosperity, and happiness—are nuggets which can be mined only in free soil.

Hardy souls who like to run their own lives believe in the "live and let live" theory—which is the essence of a democratic republic.

"Planning," on the other hand, presupposes an Omnipotent Overlord—who tells all his serfs and minions what they should do, or not do, at any given time.

No democratic republic can survive a determined onslaught of debilitating and devastating Government Planning much longer than half a century.

Why? Because the investors—when they finally learn which way the wind is blowing—will desert the sinking ship, and transfer their fortunes to unmanacled principalities, such as tiny Liechtenstein or Monaco—or Switzerland. (There's a saying that "nothing is so frightened as a million dollars.")

If the rugged characters don't transfer their savings to safer vaults, their hardness and their enterprising urges will be ground into the shifting sands of subservience and obedience.

The bravest and most determined of the rugged entrepreneurs can't perpetuate their independent derring-do spirits through two following generations.

In their attempts to pass on to their heirs what they have learned, they meet head-on the rampant force of rapacious despotism.

insist on genuine



products

MARLO—HEAT TRANSFER
Since 1923

What's HIS Angle?

Whenever you are confronted by a disdainful son or daughter who has been "taken in" by a disaffected, propagandized, proselyted professor, here's your cue: capitalize upon your child's natural curiosity. Ask pointed questions.

"Isn't it true," you might insinuate, "that your teacher believes he would be better off if an all-powerful government would establish the rates-of-pay for all occupations arbitrarily?"

Or (and this may be a terribly embarrassing question) you may ask:

"Isn't it true that your mentor has pocketed bribes from Communist-subsidized organizations?"

If your son bristles at this accusation, demand that said teacher disprove this insult—under oath.

The most blatant promoters of Communism in our educational hierarchy are those mentors who accept gratuities from Communist party funds. The F.B.I. has records on most of them. In truth, they are traitors to the United States, and to the American Ideal. But we allow them to persist.

Their admittedly paltry incomes may be augmented by handsome subsidies from Russian spies, and from contributions turned in by naive "do-gooders" who imagine or daydream (kid themselves) that they'd do better under another regime.

When a teacher takes holidays in Spain, Switzerland, or Bermuda, he should be put on the "suspect list." And when he sojourns in Russia during the summer, you can be sure that he's a Bad Influence.

Tell-Tale Clues

How can a parent decide whether or not the instructors of his beloved sons-and-daughters are subversive, "bought off," and/or traitorous? Here's a clue:

Whenever any teacher wavers as to the position he takes regarding America's international policy, and when his public statements conform to "official" Russia's day-by-day communiques, you can bet that he's on the payroll of the Communists.

His going-along-with an easily spotted Soviet attitude brands him as being either a bought-and-paid-for Russian spy, or as a zealous fanatic of the "anti-Christ" diabolical Communist religion.

Get rid of him if you can.

If this Russia-lover has locked himself onto the city's payroll, you have one recourse:

No matter what the inconvenience or the cost, you can withdraw your child from any school which harbors an instructor who is so obviously a fool. He's a traitor to the Great Principles which have made America the beaconlight for all aspiring "free peoples." Of that you can be sure. So why wait? Enroll your boy in a private school.

If you're a conscientious father, you'll abandon your chase after ephemeral dollars for the moment—after you have discovered this subversive situation—and try to explain to your son and his mates what you have learned the hard way.

Or, you'll see to it that your boy gets an honest chance to learn the facts of Life from properly qualified and untainted tutors.

If you don't, the evangelistic communists will soon rule you, your sons, and the entire world.

That's their aim and their mission; and only you, good sir, can thwart it.

REFRIGERATION INFORMATION IN A HANDY FORM



NOW READY
Audel's Refrigeration and Air Conditioning Guide. Highly endorsed for Engineers, Servicemen, Shopmen. Covering modern Principles, Servicing, Operation & Repairs of Household, Special, Commercial & Industrial units. Including Freon, Quikol Freezing Lockers, Water Coolers and Air Conditioners. 107 Systems ANSWERS YOUR QUESTIONS 1280 pages, 46 chapters. All Fully Illustrated and Indexed for Ready Reference

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MAIL AUDEL'S NEW REFRIGERATION GUIDE for free examination. If O. K. I will send you \$1.00 7 days later. I will return it. If not, I will return it. If not, I will return it.

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Employed by _____



BAKER

AIR CONDITIONING
AND REFRIGERATION

in Freon and Ammonia

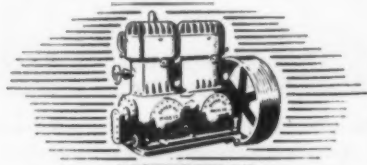
In *Freon* BAKER provides
COMPRESSOR and CONDENSING UNITS
Ranging from 1 to 60 H. P.

In *Ammonia* BAKER provides
HEAVY DUTY COMPRESSOR and CONDENSING UNITS
Ranging from 2 to 125 H. P.

BOOSTER COMPRESSORS
Ranging from 2 to 40 H. P.

HEAT EXCHANGERS — PIPE COILS — VALVES

*Certain territories are open to well-established Distributors
looking for a really broad franchise.*



Baker Ice Machine Co., Inc., *General Offices* South Windham, Maine

Factories at Omaha, Nebraska and South Windham, Maine

Warehousemen Schedule 58th Annual Meeting In San Francisco Feb. 7-10

WASHINGTON, D. C.—Fifty-eighth annual meeting of the American Warehousemen's Association, of which the National Association of Refrigerated Warehouses is a division, will be staged in San Francisco from Feb. 7 to 10, the association has announced.

The NARW will participate in a general session on Monday, the opening day, and then will hold its own meetings the following three days. The latter will be based on the theme "Merchandising Refrigerated Warehouse Space."

The program is billed by the association as a "brand new approach to the problems of public relations and merchandising refrigerated warehouse space." Public relations problems will be discussed on Wednesday, and the various phases of merchandising will be covered on Tuesday and Thursday.

After a morning business session of Tuesday, Dr. H. C. Diehl of the Refrigeration Research Foundation will take charge of an afternoon meeting on merchandising through research. Participating in the program will be Paul P. Logan, director of research for the National Restaurant Association; Thomas W. Rector, vice president of the General Foods Corp.; and P. B. Christensen of New York City.

Thursday morning, two films will deal with merchandising through service and through materials handling.

No 'Scattered' Refrigerators In 'Top of the Park' Kitchen

DENVER—Custom-built stainless steel refrigerators for high speed food service are an outstanding feature in the kitchen of the new Top of the Park, \$400,000 cocktail lounge, bar, and dining room which was completed Dec. 22, atop the 11-story Park Lane hotel on South Marion St., here.

The all-glass superstructure, which includes every type of food and drink service, required more than a year and a half to build.

With a diningroom at one end seating 175 and a cocktail lounge handling another 175 at the opposite end, three meals per day are being served from a 75 by 15-ft. connecting kitchen which runs across the entire back of the building.

Diners may see more than 200 miles of Colorado mountain ranges

through 48 7 by 8-ft. windows on three sides. With Denver already a mile high, the Top of the Park is thus one of the highest food service institutions in the country.

The all-stainless steel kitchen features stainless steel equipment, fixtures, walls, and furnishings throughout. Printed invitations on menus invite guests to tour the kitchen at any time.

Refrigeration in the kitchen is entirely custom-built and designed to do away with the usual collection of reach-in and walk-in boxes scattered here and there through the food departments.

Most impressive is a 20-ft. long McCall reach-in box which backs up the salad and sandwich department just inside stainless steel doors into the dining room. The McCall box con-

tains 12 compartments in two rows of six each, convenient to a crew of four preparation employees in this section.

The top row of six compartments operates at 40-45° for produce and cold fillers, while the bottom row of six can be set at 35° for sea foods, fruit, crisping lettuce, and other leafy vegetables.

Two circulating blowers on separate thermostats provide moving air currents through the interiors. The big box is completely stainless steel, inside and out, and is equipped with germicidal lamps for sanitation.

In the center of the kitchen is a stainless steel walk-in box, 10 by 8 by 7 ft., which divides the heavy duty cooking area from dishwashing and storage sections.

This, a Frigidaire installation,

stores all meats, dairy products, poultry, and cooking needs for the Park Lane chefs. To eliminate constant opening of the walk-in door, two double-pane reach-in doors have been installed in the side, through which the chef can reach ingredients which are racked on the shelves inside.

Under the service bar, are four reach-in compartments operating at various temperatures for mixers, fruits, wines, and beer. Four refrigerated ice chests provide storage space for 200 lbs. of ice cubes for the bartenders.

Due to their large size, the walk-in and 12-compartment reach-in boxes can handle all food refrigeration needs for serving 500 people per day, according to B. F. Weinberg, owner.

Appliance and Cold Storage Firms Organize In Wyoming

CHEYENNE, Wyo.—An appliance dealership and a cold storage company have filed articles of incorporation with the Wyoming secretary of state.

Cold storage firm is the Silver Crest Service of Gillette, capitalized at \$50,000, with Wilhelm, John W., and Mary Reed, all of Gillette as directors.

The Electric Center, Shoshoni, is capitalized at \$100,000 to engage in the retail household appliance business, with C. E. Kaiser, Fannie Kaiser, and S. W. Bohren, all of Shoshoni, as directors of the new company.

Schreiber Represents McQuay In 4 States

MINNEAPOLIS—H. Blake Thomas, general sales manager of McQuay, Inc., manufacturers of air conditioning and commercial refrigeration products, announces the appointment of R. W. Schreiber, 820 Battell St., Mishawaka, Indiana, as McQuay refrigeration representative in the territory including Wisconsin, northern Illinois, northern Indiana, and Michigan.

Schreiber has had 20 years experience in the refrigeration industry and has been associated with several equipment manufacturers and refrigeration wholesalers during this time.

Official Indicates FTC Does Not Favor New Law Requiring FOB Pricing

WASHINGTON, D. C.—No one pricing system is illegal in itself, but conspiracy to use a particular system to fix prices violates the anti-trust laws, D. C. Daniel, secretary to the Federal Trade Commission, told the New York State Chamber of Commerce recently.

The FTC believes that the present laws allow an individual business to use any pricing practice it desires, including the quotation of delivered prices computed from one or more basing points, unless that practice involves price discriminations which injure competition within the meaning of the Clayton Act, he pointed out.

Daniel indicated that the commission does not favor a new law that would require businessmen to sell their goods on an f.o.b. mill price basis.

No pricing formula is automatically free from or automatically subject to a charge of conspiracy, he explained. Each case must be decided on its merits, by the FTC. However, he asserted "Basing point practices can be readily used for price fixing and are hard to maintain over long periods of time without conspiracy."

3-Deck Case Ups Store Sales

BALDWIN, WIS.—A single "all-purpose" 3-deck refrigerated case recently installed in the grocery managed by Curtis Johnson here has proved the answer to increased sales which jumped 27% the first month.

Whited Named Sales Mgr. Of New Cauhorn Division

DETROIT—Charles E. Whited has been named sales manager for the Super-Cold division of Cauhorn Distributing Co. here, R. J. Schuler, general sales manager of the company has announced.

Whited's appointment followed the naming of the Cauhorn Co. as distributors of the Super-Cold line of commercial refrigerated cases for an eight-county area including Wayne, Oakland, Macomb, St. Clair, Monroe, Lenawee, Livingston, and Washtenaw.

As Super-Cold sales manager, Whited will supervise the establishment of dealers handling the Super-Cold line in principle cities and towns of the territory.

City Ice & Fuel Considers Changing Firm Name

CHICAGO—Directors of the City Ice & Fuel Co. here have decided to change the firm's name to City Products Corp., subject to stockholders approval at the annual meeting in April, William J. Sinek, president, has announced.

Sinek said that the change was thought desirable because of the firm's nationwide manufacturing, distributing, and selling activities in a variety of products, chiefly in the ice industries.

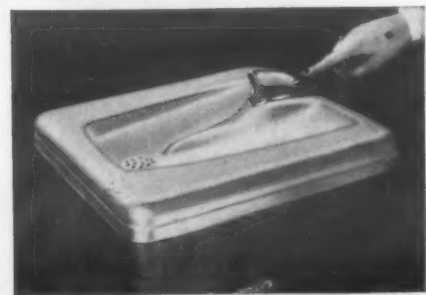
He noted that the firm's net sales have risen from \$25,000,000 in 1940 to \$80,000,000 last year principally due to the diversification and expansion of the company's business.

How to turn water into silver and gold



TEMPRITE Water Coolers meet all requirements of the National Bureau of Standards. Approved by Underwriters' Laboratory.

New sales-magic with Temprite Coolers



THE ATTRACTIVELY STREAMLINED BUBBLER and sparkling stainless steel top were designed by Temprite to offer the very last word in sanitary protection! Easy finger tip pressure starts a smooth, steady flow of perfectly cooled water... without spurring or splashing! Unusually rugged construction and careful workmanship insure long life and perfect operation.

AGGRESSIVE dealers and distributors throughout the country are working new sales-magic with the attractive, sturdy and efficient Temprite Water Coolers.

Some mighty good reasons are... Temprite is available in a complete range of models for every type of commercial or industrial application, hermetically sealed or open type, air cooled or water cooled, for AC or DC and for odd frequencies or voltages.

You can offer the streamlined styling of the pressure type model or the neat bottle type cooler. (Foot pedal attachment and glass filler are optional equipment.)

RECIPE: Combine a full measure of your selling energy and experience with a good dose of creative imagination. Add to this the universal need for cool drinking water. Combine with this mixture the complete line of quality Temprite Water Coolers.

Then step out and sell. Watch the nice cool water turn into bright, sparkling silver and gold

You can do it... in season and out of season... if you follow just 3 pioneering principles of sound salesmanship... as they relate to cool water. Here they are:

1. Get to know the story of DRINKING WATER backwards and forwards... what it really means to good health, to work-efficiency and to personal comfort in every kind of weather.

2. Talk in terms of your immediate prospects' needs. If it's health and work efficiency. Talk it. If it's customer good will. Talk that. If it's employee morale speak about employee morale.

3. It's better to never assume that your prospect knows a single thing about the real value of adequate water intake. Tell him everything, especially why drinking water should be cool!

4. The Water Cooler Story will give you the information you'll want. Write for your copy now.



WHEN YOU SELL TEMPRITE you can sell with complete confidence! Every unit is backed by the name Temprite, incorporated in a very comprehensive 5-year warranty and protection plan. Temprite Coolers are made by men who know water cooling from long years of experience in all phases of liquid cooling. Know-how and integrity make a good warranty.



Temprite

Products Corp. 43 Piquette, Detroit 2

Manufacturers of commercial and cabinet type water coolers, industrial water coolers, carbonators, draught beer coolers, soda fountain coolers, temperature control valves, oil separators, equalizer tanks, heat exchangers, etc.

KASON

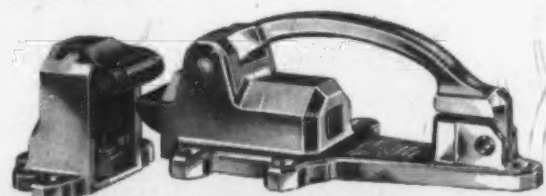
HARDWARE

TIME HAS STAMPED ITS APPROVAL ON THIS EXCELLENT HARDWARE

The impressive service-record which KASON HARDWARE has established these past eighteen years—repeating year-in and year-out the evidence of its ability to render dependable, faithful and faultless service under all conditions—has firmly established it as the finest hardware in refrigeration service. TIME HAS STAMPED ITS APPROVAL ON THIS EXCELLENT HARDWARE and the commercial refrigeration industry has long recognized it as QUALITY WORTHY OF ITS FINEST CREATIONS.

We manufacture a comprehensive line of latches and hinges for reach-in and walk-in refrigerators, coolers and freezers. Write for catalog.

Kason Hardware Corp.
127-137 WALLABOUT ST.
BROOKLYN 6, N. Y.





Here's a big volume market immediately available for intensive and profitable cultivation in "time-payment" prospects. Here is where you'll find your best sales in 1949.

There are scores, maybe hundreds, of merchants in your territory who are ripe prospects, ready to sign on the dotted line, if approached with a sound, safe and economical plan for buying on time.

Your Commercial Credit representative has just such a plan, with all necessary safeguards for you and attractive terms for the buyer. He is sales-minded as well as finance-wise. Why not consult with him. A 'phone call or a letter will get you his prompt attention and assistance.

COMMERCIAL CREDIT CORPORATION

A Subsidiary of
Commercial Credit Company, Baltimore • Capital and Surplus \$90,000,000

MORE THAN 300 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

Available from
1/2 to 10 H.P.

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DOUBLE-TUBE
COUNTER-FLOW
WATER-COOLED
CONDENSERS**

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insist on
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Since 1925

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THAN
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You save time . . . avoid confusion
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Ounsworth Takes Sales Post with Freez-King

CHICAGO—L. H. Ounsworth, formerly national accounts representative of Taylor freezers for Tekin-Craft, has been elected vice president and sales manager in charge of national accounts for Freez-King Corp. here.



The company, which manufactures a continuous, portable frozen custard-soft ice cream freezer, also announced the appointment of A. E. Wilson as director of sales. Wilson, for many years, was general sales manager of Mills Industries, Inc.

Spencer Thermostat Made Div. of Metals & Controls

ATTLEBORO, Mass. — Spencer Thermostat Co., a wholly owned subsidiary of Metals & Controls Corp., became known as the Spencer Thermostat division, Metals & Controls Corp. as of Jan. 1, the company has announced.

No change in management or operating policy occurred, the company added.

Spencer manufactures appliance thermostats, refrigerator starting relays, and overload protectors, relief valves, room thermostats, and other controls under the Klaxon and Thermo-Snap trademarks.

Wilkes-Barre Restaurant Boasts Neat 'Refrigeration Row' of 15 Reciprocating Compressors Operating 24 Separate Units

WILKES-BARRE, Pa.—Proponents of neat, orderly, and soundly-engineered multiple-unit refrigeration installations might do well to look in on a job recently completed for the Neisner Bros. store here by Home Utilities Co., local Frigidaire dealership.

The job was under the supervision of John Morris, service engineer of J. J. Pocock, Inc., Frigidaire's Philadelphia distributing organization.

A battery of 15 Frigidaire reciprocating compressors operate 24 separate refrigeration units in the Neisner store restaurant. The overall installation consists of 10 1/2-hp. combination air and water-cooled units; two 1/2-hp. water-cooled units, and three 1 1/2-hp. water-cooled compressors.

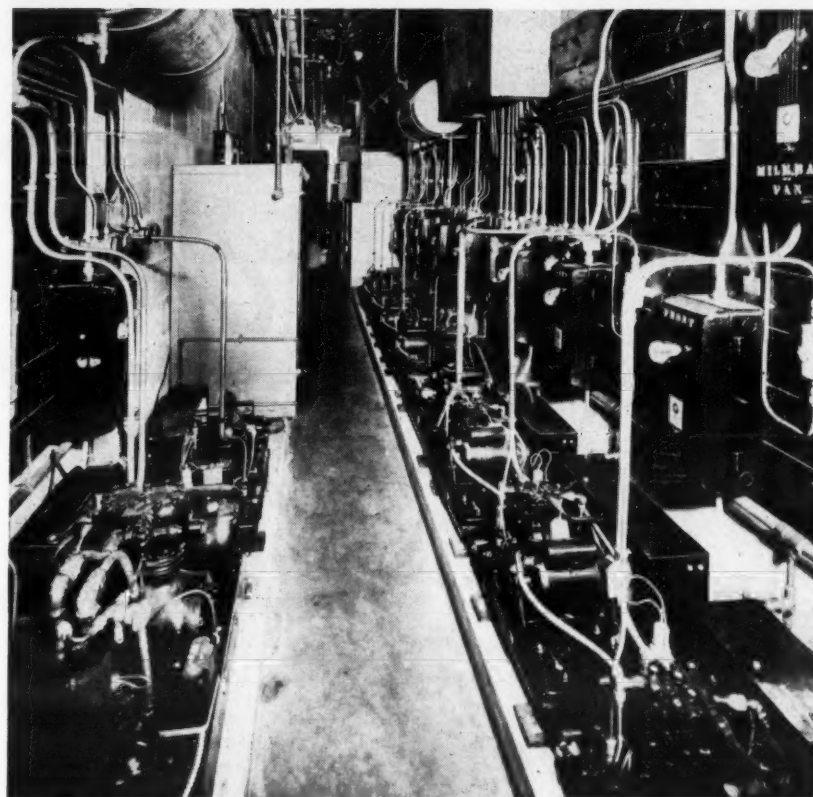
Three of the 1/2-hp. compressors are hooked up to a trio of soda fountain units. Two others operate two salad-chilling units, while a third refrigerates three syrup rails and three dry storage compartments in the soda units.

Three more of these 1/2-hp. compressors operate five under-the-counter refrigerators. Another is hooked up to a reach-in refrigerator.

Another reach-in refrigerator is operated by a 1/2-hp. compressor. A second compressor of this type is used to refrigerate three water coolers in the soda unit.

Two of the 1 1/2-hp. compressors operate two ice cream making cabinets. The third cools circulating water.

All of the compressor units are in-



stalled in neat rows on either side of a walk-way. Morris pointed out that such an arrangement affords easy accessibility to the compressors for maintenance and service. All units have also been installed in such a way that fixtures can be moved or relocated without major

alterations in the over-all set-up.

In addition, each compressor is marked so that it is easy to identify the particular unit that is hooked up with individual refrigeration fixtures in the restaurant proper. Tubing runs are unusually neat throughout the installation.

NYU Plans Seminar on Heating, Air Conditioning

NEW YORK CITY—The first annual seminar dealing with new developments in heating and air conditioning will be conducted during the coming spring term by New York university, according to Professor S. G. Roth in charge of technical studies for the division of general education. The seminar, consisting of 15 weekly evening meetings, beginning, Tuesday, Feb. 8, will be open to engineers, technical salesmen, and design engineers.

The seminar will be conducted by a panel consisting of Mario C. Giannini, associate professor, New York university college of engineering; Emory N. Kemler, research professor and acting director of research, college of engineering; Peter B. Gordon, treasurer, Wolff & Munier; and Victor L. Parsegian, director, Physical Research Kellogg Corp.

Tesco Distributors To Move To Larger Quarters on Feb. 1

NEWARK, N. J.—Tesco Distributors, Inc., wholesalers of refrigeration and air conditioning supplies here, has announced that on or about Feb. 1 it will move its quarters to a 15,000-sq. ft., four-story building at 78 Boston St. here.

"Extensive alterations have been made in the form of modern offices and modern front with air conditioning throughout," Theodore Yecies of the firm has declared. "There will be separate entrances for receiving and shipping departments and an up-to-date showroom," he added.

Suit for Damages Against Cold Storage Firm Dismissed

LINCOLN, Neb.—Federal Judge John W. Delehant here has dismissed the case of Safeway Stores, Inc. vs. York Cold Storage Co. of York, Neb., in accordance with terms of a stipulation by both parties.

Plaintiff's complaint wherein Safeway had asked \$18,524.47 for alleged damage to poultry through faulty refrigeration at the York Cold Storage Co.'s plant was dismissed.

The defendant's counter claim wherein the cold storage firm had asked \$25,800 allegedly due as rent from Safeway, was dismissed with prejudice at defendant's costs.

Buffalo Firm Established

BUFFALO—Baumann Refrigeration Service has been established at 1528 Jefferson, by R. J. Baumann.

Millians Elected Vice Pres. Of Commercial Credit Co.

BALTIMORE — A. E. Duncan, chairman of the board of Commercial Credit Co., has announced that Paul M. Millians was recently elected a vice president of the firm.

Millians joined the American Credit Indemnity Co., a subsidiary of Commercial Credit Co., in 1938 as a member of its executive staff. In 1944 he was elected a vice president of Commercial Credit Corp.

Frick Net Income Up for Year

WAYNESBORO, Pa.—The Frick Co., air conditioning and refrigeration equipment manufacturer here, has reported a net income of \$2,112,038 for the year ending Oct. 31, 1948, as compared with \$2,039,221 in the preceding fiscal year.

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Refrigerants

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**New 3-way OASIS Compartment Cooler
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★ Makes 28 Full-sized Ice Cubes
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● Here's the exciting new triple-value bottle-type cooler that has stirred up such a big demand among professional men, executives, smaller office groups, and dozens of other prospects. In addition to its ready supply of wonderfully cool drinking water, it provides 28 full-sized ice cubes in "Magic Touch" quick-release trays, plus a big refrigerated compartment for beverages, foods, pharmaceuticals, etc. (Holds 15 to 24 beverage bottles of average size.) Monel-metal lined compartment and door are fully-insulated; providing constant cold of 35-38° F inside. Door can be locked, for privacy. This sensational OASIS has many other leading features that give you a big edge on this profitable new business. Write for complete details today!

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ELECTRIC WATER COOLERS

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401 W. Town St., Columbus 8, Ohio

Refrigerator, Freezing Program Opens Women's Roundtable Series

NEW YORK CITY—A refrigerator and freezing program on Jan. 26 will head off a series of four monthly workshops for electrical living sponsored by the Electrical Women's Round Table, Inc. here.

The program running from 9:30 a.m. to 9:30 p.m., will be staged in the auditorium at 570 Lexington Ave.

K. G. Roe, of the refrigeration division, General Electric Co. will start off the affair with a discussion of the fundamentals of refrigeration.

Following him, Dr. C. R. Fellers, head of the department of food technology, University of Massachusetts, will cover the problems of food preservation including the types, causes, and prevention of spoilage, the application of refrigeration, and storage.

Faith Fenton, professor of foods and nutrition at Cornell university, will wind up the morning session with a talk on pre-cooked ready-cooked foods.

Dr. Donald K. Tressler of Tressler Associates, will dissent on the packing problems of frozen foods at the afternoon session. The remainder of that period will be devoted to refrigerator and freezer use demonstrations by Julia Kiene of Westinghouse Electric Co., and Rhea Shields of Deepfreeze division, Motor Products Corp.

During the evening session, Dan A. Packard, sales manager of the Kelvinator division, Nash-Kelvinator Corp., will address the workshop on merchandising freezers and refrigerators. A half-hour question period will follow Packard's talk.

Dr. Martha Johnson of General Electric Co. and Dr. Nancy Masterman of Cornell university are co-chairman of this meeting.

Other workshops scheduled will cover "The Home Laundry Today" on Feb. 23; "The Electric Range" on March 30; and "Radio, Television, Careers" on April 27.

Oil Burner Shipments Increase 6% In October

WASHINGTON, D. C.—October shipments of 59,351 oil burner units represent a 6% increase over the 56,228 shipped in September, the U. S. Bureau of the Census reported recently.

The Bureau also reported that shipments of domestic cooking stoves and ranges (except electric) in October totaled 304,983 units valued at \$25,335,556. This compares with September shipments of 314,727 units valued at \$26,057,614.

October shipments of non-electric water heaters during October totaled 172,324 units valued at \$7,877,224. For September non-electric water heater shipments numbered 196,704 units valued at \$8,726,940.

Heads G-E Credit Corp. Branch

CHICAGO—W. I. Paine has been appointed manager of the Minneapolis office of General Electric Credit Corp. effective Jan. 1, according to an announcement by R. R. Campbell, district manager here. Paine was formerly a representative of the firm in South Bend, Ind.

Roberts & Manders Cuts Five Range Model Prices

HATBORO, Pa.—Price reductions on its five models of "Quality" electric ranges announced by Roberts & Manders Corp. at the winter mart in Chicago recently were as follows:

Model	Old Price	New Price
AE-O	\$204.95	\$199.95
AE-1	327.50	315.95
AE-2	349.50	334.95
AE-9	389.50	370.00
AE-99	409.50	395.00

Utility Reports Appliance Sales In Nashville Area

NASHVILLE, Tenn.—A total of 65 local dealers sold 307 electric ranges, 272 refrigerators, 110 water heaters, and nine home freezers during November, the Nashville Electric Service reported.

In addition, the utility said, housing projects, plumbers, contractors, and others sold 214 water heaters, 23 ranges, 12 refrigerators, and three freezers.

Refrigerators Barge In on Eskimos

Dealers Battle Maritime Strike, Legend, and Stormy Waters To Get Appliances to Alaska

SEATTLE, Wash.—Selling refrigerators to Eskimos is a tough job under normal circumstances. And when your regular supply lines are shut off by a maritime strike, it requires even more work to stay in business. That's what happened to a group of Frigidaire dealers in Alaska.

Receiving much or all of their merchandise by water-borne freight, these dealers were hard hit less than a month after the strike was called. Stocks were exhausted and future supplies appeared in doubt unless transportation other than the regular steamship lines could be established. But Alaskans are a hardy lot. They simply refused to be stumped. And within a short time many of them were again receiving merchandise by using their ingenuity and working closely with the Seattle Frigidaire distributor, Sunset Electric Co.

Via air to the Northern Commercial Co. at Anchorage went two Frigidaire washers, a dryer, and a range. The same method was used to ship two water coolers and a beverage cooler to Nome. Barges, towed up an inside ship channel, carried other equipment across the Gulf of Alaska to Seward for the Seward Machine Shop and for distribution to Northern Commercial Co.'s stores at Anchorage and Fairbanks.

One of the first barges to attempt the long hazardous journey encountered a severe storm and was lost with its entire cargo. Marine insurance rates then trebled. The dealers remained undaunted, however, and instructed the distributor to continue shipments by barge, small fishing boats, or any other available means.

From Anchorage, R. S. Richards, Frigidaire commercial dealer, ar-

rived in Seattle after driving one of his trucks 3,200 miles over the Alcan highway. He was joined by his partner and, together, they purchased another truck, loaded them both, and started back at a time of year when they were most likely to encounter unpleasant driving conditions.

A cannery boat by any other name smelled as sweet to Ben Kraft, Frigidaire's Kodiak dealer, who flew to Seattle and chartered a 200-ton vessel normally used to haul fish. When the boat owners refused to load at Seattle but agreed to put merchandise on at a port 60 miles away, Kraft ordered his appliances trucked to the port, where they were promptly stowed aboard. With his fingers crossed, he watched it start across the Pacific Ocean to his island home. Included in this cargo were Frigidaire refrigerators, ranges, washers, dryers, ironers, and two dehumidifiers.

Whalen Files Business Name

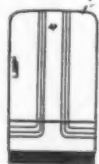
BUFFALO—A business name has been filed in the Erie County clerk's office for Whalen's Appliance Service, 2622 S. Park Ave., Lackawanna, by Thomas F. Whalen.

Sell all types of difficult prospects...



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"Dulux"-finished appliances without the seal, ask him to include it in the future. It helps decide customers... in your favor!

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Electric Range Survey Reveals Installation Costs, Why Consumers Bought from Particular Type of Outlet, and Users' Income Group

CHICAGO—A survey conducted by Hotpoint's market research department reportedly revealed that the average cost for installing an electric range in 1948 was \$40.

This figure is said to represent "an indicated decrease of \$9 from the 1947 average."

Leonard C. Truesdell, Hotpoint's vice president of marketing, said the study among 10,000 consumer-purchasers of electric ranges was the first of its kind undertaken on a national basis. Questionnaires were filled out by customers who purchased electric ranges between Nov., 1947, and Nov., 1948.

SUBJECTS COVERED

In addition to data on wiring costs, the survey disclosed new information on such other factors affecting electric range purchases as: type of dealer patronized, reasons for patronizing a specific dealer, the replacement market, and range purchases as related to home investment.

The survey was one of several studies of dealer opinions and consumer buying habits now being conducted under Hotpoint's broadened marketing program.

Reductions in cost of installations for ranges is one of the most significant factors in the increasing acceptance of this appliance during the postwar period, Truesdell said.

"Shortly after the war when it became apparent that the electric range had hit its stride," he declared, "the dealer, as well as the manufacturer, was confronted with the problem of high installation costs. While I recognize that this has been a serious problem, I believe that the price trend definitely turned downward."

"Industry sales this year of more than 1.5 million electric ranges would

seem to indicate that installation costs do not constitute a seriously deterring factor in consumer range purchases.

UTILITIES EXPANDING

"It is significant to note current activity in the electric utility industry as it affects the future of the electric range. While the utilities were outstanding merchandisers of electric ranges in the past, recent power shortages have forced utilities to reduce their promotional activities.

"Now the utilities are undertaking a tremendous expansion program which will double present generating capacity by 1960. The market for electric ranges will be considerably expanded by this program."

During the last year, some utilities have discontinued underwriting range installation costs, Truesdell noted. This may indicate, he asserted, that public demand has now established the electric range as firmly as the refrigerator, eliminating the need for installation underwriting to encourage sales.

ONLY 14% SATURATION

The electric range has only a 14% saturation in wired homes, he said. While it is estimated that industry sales will continue to exceed a million sales annually in the immediate future, statistics indicate that electric range saturation will reach only 25% by 1960, he pointed out.

The survey revealed that 27% of the sales replaced gas ranges, while 26% replaced ranges with other types of fuels. Twenty percent of the sales were for the first range purchased by consumer. The average electric range replaced was well over 10 years old.

The tabulations showed that 62% of the consumers bought a particular range brand because of features, design and construction, and 55% because of brand name or reputation. Only 17% cited dealer contact or salesmanship as the determining factor in closing the sale.

Truesdell characterized the latter point as one of the most important highlights of the survey.

"Since only 17% of the consumers were sufficiently impressed by dealer salesmanship to list this factor as the number one influence in the purchase of an electric range, it is apparent that manufacturers must continue to train their dealers and support them with every selling aid possible," he said.

"While this phase of the survey might indicate that the consumer is still carrying the fight to the dealer's door, the realistic dealer already is aware that sales of other less wanted appliances require skilled salesmanship accompanied by consistent merchandising programs and follow-through.

62% BUY FROM APPLIANCE DEALER

Truesdell said most consumers (62%) surveyed, purchased an electric range from an appliance dealer. Other type of outlets were patronized by consumers as follows: public utilities, 12%; furniture stores, 10%; department stores, 7%; plumbing and heating outlets, 2%; other types, 6%.

Because 62% of the consumers listed the dealer's reputation, service, and courtesy as the reasons for patronizing a particular outlet, Truesdell concluded that the specialty appliance dealer is in the best position to offer the customer personalized attention. Written-in comments under this question also included these factors: reliability, past purchase satisfactory, service friendship, neighborhood location, courtesy, and terms.

The section of the survey dealing with price classification of the consumer's home was said to support marketing studies which reveal that families earning \$5,000 or more constitute the largest segment of buying power, so far as major appliances are concerned.

The survey showed that 33% of the consumers valued their homes in the \$6,000 to \$10,000 classification. Only 9% of the consumers lived in homes valued at more than \$15,000.

Supporting his assertion that the \$5,000 income group is an increasingly important purchasing power in the appliance industry, Truesdell cited a market study which revealed that: In 1939 1.6% of all families were in the \$5,000 income bracket; in 1945,

this group represented 12% of all families; and in 1948, more than 21%, or nearly nine million families, were included in this income group.

The portion of the survey dealing with the size of the town in which the consumer lives showed that one-fifth of all the consumers were in the farm market. This classification was second only to the 25% who lived in towns of 50,000 or more.

CONCLUSIONS DRAWN

Summarizing his interpretations of the survey, Truesdell concluded that:

1. A well designed appliance, supported by national advertising and the reputation of an established manufacturer, will find a good market.

2. While reducing installation costs is still a problem of major concern to the industry, progress made during the last year has been encouraging.

3. The dealer must play an increasingly important part in the development of the market.

Evaluating the survey from the merchandising viewpoint, Edward R. Taylor, manager of market development, said the tabulations "offer concrete evidence of the need for coordinated merchandising programs at the dealer level.

DEALER ADVERTISING NEGLECTED

"The success of consistent merchandising activities implies complete cooperation of factory, distributor, and dealer. The sizable outlays being made in the appliance industry today for advertising, promotion, and sales training will be misdirected unless the dealer takes the fullest advantage of all selling aids."

The survey has been valuable in projecting future company merchandising schedules, Taylor said, adding that the \$5 million merchandising budget for the past year now can be effectively evaluated in terms of influencing actual range sales.

The reasons listed by consumers for patronizing a particular dealer showed that while reliability and courtesy were high on the list, local advertising drew only passing mention, he continued. Since only 4% of the consumers named local dealer advertising as an influential factor, it is apparent that this important phase of planned merchandising has been neglected by dealers, Taylor said.

NARDA'S Trade-In Guide Includes 4 Appliances

MADISON, Wis.—The 1949 official NARDA Trade-In Guide, which covers for the first time pertinent information on refrigerators, washers, vacuum cleaners, and electric ranges, is expected to be off the presses around Jan. 20, the NARDA Guide Co. here has announced.

The guide, which will be furnished to every member of the National Appliance and Radio Dealers Association free of charge, is also available to other retailers, manufacturers, and wholesalers at \$5 per copy.

Pocket-size with stiff cover, nearly 100 pages in length, the guide is aimed to assist appliance dealers and their salesmen in making fair, profitable trade-ins in 1949.

Covering the products of more than 40 manufacturers, the guide gives model numbers, descriptions of models, years, and suggested trade-in values.

Copies may be obtained from the Narda Guide Co., 20 N. Carroll St., Madison 3.

J. R. Cameron Returns To Norge as Assistant to Manufacturing Director

DETROIT—J. R. (Jack) Cameron, who has been in the appliance business since 1922, has returned to the Norge division of Borg-Warner Corp. as assistant to Harry L. Spencer, director of manufacturing, it was announced by Howard E. Blood, president and general manager.

Cameron first joined Norge in 1927 and returns to the company after having spent the last four years as manufacturer's agent handling industrial products in this area.

When he left Norge in December, 1944, he was manager of national service on all products, including refrigerators, commercial units, gas and electric ranges, washing machines, and home heaters.

He had held this position from 1933. Prior to that time he had been assistant manager of national service and national service representative in the field.

Blood stated the appointment had been made in recognition of Cameron's broad and basic experience gained in many years of service with the company and in the appliance manufacturing business.

In his new position, Cameron will be on special assignment under the direction of Spencer, Blood said.

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6. Smooth pleasing appearance — symmetrical design.
7. Individual wrench pads for tightening flare connections.
8. Unique sweat connections permit soft or silver soldering without removing internal assembly.
9. High quality, long wearing, seating insert.
10. No special tools required for servicing.

Superior ANGLE VALVES

CATALOG NUMBER	CONNECTIONS	LIST PRICE EACH	NET WT. EACH LBS.	CODE WORD
104-4B	SAE Flare 1/4" Male Pipe 1/4"	\$5.00	.75	Lelom
104-4C	SAE Flare 1/4" Male Pipe 1/4"	5.00	.75	Lelot
104-6B	SAE Flare 1/2" Male Pipe 1/2"	5.00	.75	Lelaz
104-6C	SAE Flare 1/2" Male Pipe 1/2"	5.00	1.00	Lelag
105-8B	SAE Flare 3/4" Male Pipe 3/4"	5.00	1.00	Lelaj
105-8C	SAE Flare 3/4" Male Pipe 3/4"	5.00	1.25	Lekad
106-10D	SAE Flare 1" Male Pipe 1"	6.00	1.25	

Superior LINE SHUT-OFF VALVES*

CATALOG NUMBER	CONNECTIONS	LIST PRICE EACH	NET WT. EACH LBS.	CODE WORD
204-4	SAE Flare 1/4"	\$5.30	.9	Lelim
204-6	SAE Flare 1/2"	5.30	.9	Lelot
205-8	SAE Flare 3/4"	5.30	1.25	Lelaj
206-10	SAE Flare 1"	6.60	1.5	Lemjo
204-4S	O.D. Sweat 1/4"	5.30	.9	Lemuz
204-6S	O.D. Sweat 1/2"	5.30	.9	Lenag
205-8S	O.D. Sweat 3/4"	5.30	1.25	Lenek
206-10S	O.D. Sweat 1"	6.60	1.5	Lenov

Superior BRANCH SHUT-OFF VALVES*

CATALOG NUMBER	CONNECTIONS	LIST PRICE EACH	NET WT. EACH LBS.	CODE WORD
304-4	SAE Flare 1/4"	\$6.25	1.00	Lepem
304-6	SAE Flare 1/2"	6.25	1.00	Lepuc
305-8	SAE Flare 3/4"	6.25	1.50	Lepwe
306-10	SAE Flare 1"	7.50	1.75	Leraj
304-4S	O.D. Sweat 1/4"	6.25	1.00	Lesak
304-6S	O.D. Sweat 1/2"	6.25	1.00	Lesoz
305-8S	O.D. Sweat 3/4"	6.25	1.50	Letep
306-10S	O.D. Sweat 1"	7.50	1.75	Letul

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VOLUME 56, No. 4, SERIAL NO. 1,036, JANUARY 24, 1949

How To Sell Home and Farm Freezers When Snow Is on the Ground

(Concluded from page 1)

Does it simplify housekeeping?

Does it contribute to better health?

Does it promote domestic tranquillity?

The home freezer, of course, satisfies ALL these requirements.

Conley also advocates close cooperation between freezer dealers and frozen foods processors and distributors—both for mutual advantage, and for ultimate benefit to the consumer.

It has been said over and over again that the home freezer is the missing link in the development of the frozen foods business; and that until more home freezers are in use the frozen foods industry cannot begin to realize its potential volume.

Because the purchaser of a home or farm freezer becomes a regular and quantity user of frozen foods, it's to the interest of frozen foods packers and distributors to help hard-working specialty dealers promote the sale of freezers.

Distributors of frozen foods are overlooking a good bet if they fail to cooperate with freezer dealers. The owners of home freezers are apt to purchase large quantities of frozen foods IF bulk purchases are made attractive to them.

The availability of frozen foods at a special or discount price encourages the sale of more home freezers, which in turn results in more sales of frozen foods.

Appliance dealers should provide their prospects with lists of local frozen food distributors when selling home freezers, so that their customers can contact the distributor direct and save money. Likewise, dealers can give frozen foods distributors the names of new freezer purchasers, and suggest that the wholesalers follow up.

New home freezer owners should be told that they can purchase the larger, cheaper, 2½-pound packages of frozen foods through these distributors. And every freezer purchaser should be told where and from whom he can obtain these bargains.

In some cities a 10% discount is offered on frozen foods purchases (on a minimum order of \$50) placed by the appliance retailer with the frozen foods distributor (each absorbing 5%). And one frozen food distributor offers a 15% discount to home freezer owners who purchase frozen food packages from him in wholesale lots.

Most frozen foods distributors, appliance dealers will find, are eager to promote the sale of frozen foods through bulk sales of one type or another to freezer owners. In most cases, the chief cooperative problem is that of figuring out some method of working together which will not add too great a burden to the frozen foods distributor's bookkeeping, or to that of the dealer.

Everybody wins in this game, as Conley points out so cogently. The frozen foods seller picks up new regular customers; the appliance dealer sells high-profit freezers more easily; and the purchasers of freezers amortize the original cost of their investment in better living more quickly.

Moral to this story: Progressive specialty dealers should cultivate the friendship of frozen foods processors and wholesalers—and the locker plant people, too.

By working together, they can build a big business.

Room Conditioner Dealer Builds Business On Telephone Listings of Professional Men

ST. LOUIS—Concentrating room conditioner promotion on lawyers, doctors, dentists, and other professional men listed in the telephone book has helped the Schweig-Engel Co., here ring up a high volume of sales for more than eight years.

This dealership has been successfully selling and servicing package air conditioners since 1940, when Sam Singer, head of the firm, saw an excellent market in St. Louis' 100° summer weather.

Despite the comparatively high prices of such cooling units, he contracted for ½-ton, ¾-ton, and 1-ton package conditioners and started out on a long-continued educational job designed to make his outside salesmen practical engineers.

The store's location in the center of a downtown professional building area helped immensely, Singer indicated. With hundreds of doctors, lawyers, and dentists passing the building daily, Singer devoted one entire window to displaying various package coolers. Bright ribbon streamers were attached to the outlet grilles to indicate the force of cooled air produced. Package units kept the store cool in the hottest summer weather.

Result: Singer soon found himself with a reputation for comfort cooling which has grown steadily ever since.

The St. Louis dealer's method of getting his organization under way was simple.

First, he trained two salesmen to correctly size up a room for cooling output required, heat load, shade, etc., and thus to estimate correctly what size unit would be required.

Next, Singer and his salesmen started through the professional listings in the St. Louis phone book. They phoned one person after the other and sent all a broadside of colorful literature on the benefits of package air conditioning.

As soon as a telephoned prospect evinced interest, Schweig-Engel sent out a salesman to explain operation of the unit, its costs, advantages, etc., and "estimate" the job.

"We found that the average prospect knew little or nothing about room coolers, except for what they

had seen in hotel rooms on business trips," Singer said.

With Schweig-Engel averaging 20 or more telephone calls per day, sales started coming rapidly. Almost every sale, it was found, would produce a dozen additional leads; all were religiously followed up.

When a prospect objected to the high price of the room cooler and felt hesitant about making the investment, Singer had the answer in seasonal rentals. Half-ton models were rented for \$125 per season and ¾-ton units at \$175.

This policy gave the prospect a chance to experiment with the machine for one season without too great a penalty. It worked out so well that every rental installation resulted in a sale.

During the past three years, the firm has found the "home market" equally as good as the professional office field.

"We think we have gotten the cream from the professional-man field, although it is by no means saturated," Singer said. "We are using the same methods to sell homeowners."

"A lot of men accustomed to comfort cooling in their offices and stores are considering it for bedrooms at home, and we are using plenty of advertising, direct mail, and personal follow-ups to sell this field."

"Here again, almost every job we have sold in a home creates a dozen additional prospects; so many, in fact, that with the limited stock of coolers coming in, we have not done any cold canvassing whatsoever."

"We have three specialist salesmen on the job now, each of whom can engineer any kind of installation. Each man knows his job well. This is the most important point in selling the home market, for unless the job is completely satisfactory, we won't draw additional prospects from it."

ASHVE Will Sponsor Southwest Show In '50

DALLAS, Tex.—A regional version of the International Heating & Ventilating Exposition to be known as the Southwest Air Conditioning Exposition has been scheduled for the state fair grounds here Jan. 23 to 27, 1950.

This event will be under the auspices of the American Society of Heating and Ventilating Engineers, which is holding its fifty-sixth annual meeting in Dallas at the same time. The exposition proper will be held in the Hall of Agriculture in the fair grounds.

Several groups of exhibits are being planned, including air conditioning, refrigeration, combustion, hydraulic, steam, and hot water heating, air, controls, central heating, insulating, and auxiliaries. One entire section will be devoted to exhibitors from the gas industry.

The arrangement of exhibits is being handled by Charles F. Roth, manager, and space reservations may be made through the International Exposition Co., Grand Central Palace, New York City.

Condensing Unit Sales Off In '48, Lynch Reports

CHICAGO—Though sales and earnings of Lynch Corp. in 1948 were the second largest in the company's history, the volume of refrigeration condensing units was down considerably from 1947. T. C. Werbe, president, reported recently.

Production of other products made by the company maintained their 1947 pace or exceeded it, however. Werbe pointed out that both volume and net earnings were below 1947 records when company sales totaled \$8,441,951 and earnings totaled \$1,185,839.

For the first nine months of 1948, the company reported sales of \$5,734,846 and a net income of \$762,767.

Textile Mill Record Set In '48

CHARLOTTE, N. C.—An all-time high in the installation of air conditioning equipment in textile mills was reached in 1948, Karl Selden, Jr. of the Minneapolis-Honeywell Regulator Co. declared here recently.

Sullivan Heads Lau's Advertising, Promotion

DAYTON, Ohio—The appointment of Edward V. Sullivan as advertising and sales promotion manager of The Lau Blower Co. here, was recently announced by T. I. Byrd, sales manager.



E. V. Sullivan

Sullivan was formerly an account executive with the Hutzler Advertising Agency and prior to that was assistant to the advertising manager of The Sheffield Corp.

His duties began Jan. 1 and consist of the coordination of all Lau national advertising as well as contact and sales promotion activities with the Lau sales force and their distributors.

Carrier Names Associate Dealer In Jackson, Miss.

JACKSON, Miss.—Certified Radio & Refrigeration Service here has announced that it has become an associate dealer franchised to handle the Carrier line of air conditioning equipment.

Newton J. Hackler, owner, said that he had signed the franchise to become an associate dealer with Motors, Inc. here, which has carried the line for many years.

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REFRIGERATION OF LIQUIDS by L. Nusbaum	3	45¢
REFRIGERATION OF APPLES AND PEARS by H. H. Plagge	4	45¢
REFRIGERATION SERVICE CHARTS by J. F. Kern	5	50¢
REFRIGERATION OF SKATING RINKS	6	40¢
REFRIGERATION IN BUTTER AND CHEESE MAKING by J. H. Godfrey and others	10	40¢
REFRIGERATION LOAD CALCULATIONS (Temperatures Above 32° F.) by S. C. Segal	11	35¢
REFRIGERATION LOAD CALCULATIONS (Temperatures Below 32° F.) by S. C. Segal	12	35¢
REFRIGERATION IN MILK PLANTS by E. H. Paulsen	13	40¢
AIR CONDITIONING IN RESTAURANTS by R. E. Borden	14	35¢
AIR CONDITIONING IN THEATERS by C. B. Albright	16	40¢
REFRIGERATION OF ORANGES IN CALIFORNIA by H. M. Hendrickson and J. R. MacRill	17-R	50¢
REFRIGERATION OF LEMONS AND GRAPEFRUIT by H. M. Hendrickson	18-R	45¢
OPERATION OF AMMONIA MACHINES by J. R. Chamberlain and others	19-R	50¢
REFRIGERATION FOR FOOD STORES by R. E. Borden	21	35¢
PRESERVATION OF FOODS BY FREEZING by C. Birdseye	22	45¢
REFRIGERATION IN WINE MAKING by G. L. Marsh	23	35¢
REFRIGERANT TABLES AND CHARTS WITH VARIOUS PRACTICAL EXAMPLES by D. Crampton	24	40¢
HOW TO FIGURE REFRIGERATION INSULATION by L. C. Leslie	27	45¢
REFRIGERATION OF SHIPS' STORES by C. B. Albright and others	28	40¢
FREEZING OF EGGS by M. E. Pennington	29-R	45¢
REFRIGERATION OF BANANAS by V. W. Ridley	30	35¢
REFRIGERATION FOR SELF-CONTAINED DRINKING WATER COOLING SYSTEMS by J. J. Corey	31	35¢
REFRIGERATION FOR REMOTE DRINKING WATER COOLING SYSTEMS by J. J. Corey	31-A	40¢
AUTOMATIC CAPACITY CONTROL by W. L. McGrath	32-33	50¢
PROTECTIVE PACKAGING OF FROZEN FOODS by V. G. Woodroof	34-R	35¢
REFRIGERATION OF ALUMINUM ALLOYS by F. Keller	35	35¢
MEAT PACKING PLANTS by Roger Sprague	36	45¢
HOME FOOD FREEZERS by R. H. Bishop	37	50¢
HOSPITAL AIR CONDITIONING by W. S. Bodinus	38	35¢
AIR CONDITIONING IN CANDY MANUFACTURE by H. C. Hoffmann	39	35¢
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AIR CONDITIONING DESIGN by H. C. Hoffmann and G. B. Priestler		
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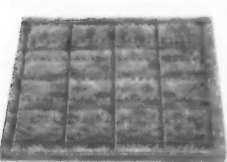
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Installations with **R-P AIR FILTERS** By **RESEARCH**

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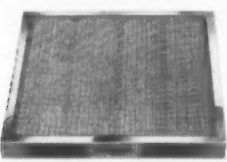
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 R-P Special Filter Coat

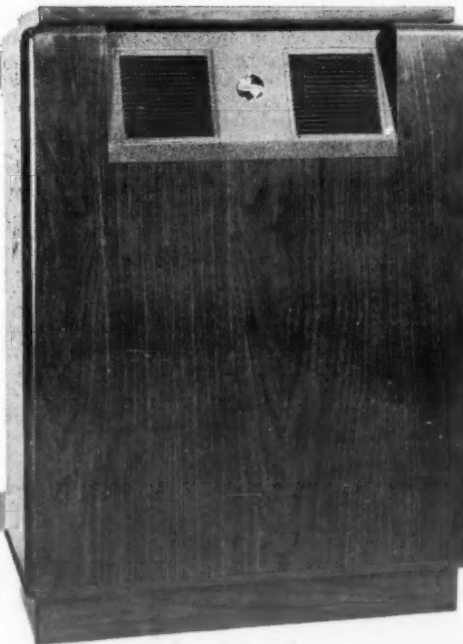
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YOUR Territory May Still Be Open! Write Now!



Special PRICES

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SPECIFICATIONS Spelling S-A-L-E-S!

★ COMPACT, 27" High, 22" wide, 10" deep
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 ★ REFRIGERATED with Freon ★ FILTERS and Dehumidifies
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WRITE TODAY for Full Information
 Cable Address - "INTIME"

Manufacturers of All Copper Refrigerant Coils from 1 to 20 tons which, when installed in existing ductwork of any central heating system, will provide refrigerated air conditioning.

INTERNATIONAL—Has a lower initial cost and installs for 25% to 40% less. No expensive alterations of walls or masonry, operates anywhere, in the room. **INTERNATIONAL** Cools and dehumidifies from any location in a home, tourist court, office, hospital, hotel. The compressor, (extra) can be placed in basement, attic or closet, connect with flexible, inexpensive copper tubing. Increasing Compressor capacity makes large commercial sales easy! ALL the advantages of a single unit system without blocking windows, winter removal or compressor noise and heat. Fully Automatic, triple thermostatic control, **INTERNATIONAL** is THE Profit line for '49—No "wrecking" installations, inexpensive, effective, flexible, modern, smart! This same system, using chilled and hot water instead of Freon, will provide year round temperature control. Order now—WRITE...



INTERNATIONAL AIR CONDITIONING

Mrs. International Manufacturing Co.
 515 W. Main St. Oklahoma City 1, Okla.
 Plant: 4028 N. Barnes



READER SAYS IT REQUIRES MORE THAN A TRUCK DRIVER TO REPLACE SEALED REFRIGERATION UNITS

Memphis, Tenn.

Editor:

While at home sick I improved my time re-reading back issues to see if I have missed anything and I find that I have! The news story on page 7 of the Oct. 4 issue entitled "Job for a Truck Driver" should have called for a storm of protest from every factory and serviceman subscriber on the books.

I have no desire to comment on the merits of the controversy between the NARC and the union but I take issue firmly with the assertion that replacing a sealed unit with refrigeration system, domestic or commercial, is a job for anyone but a trained serviceman. The reasons are obvious and numerous—as any experienced mechanic knows.

Let me, however, illustrate a few of them by citing actual cases from my own memory. I have changed dozens of sealed units and I never encountered one yet that didn't require a full kit of refrigeration tools, for one thing, and here are some other points to consider:

I have found cabinets where bolts suspending the evaporator were so badly corroded the nuts had to be heated with a torch and sometimes twisted off, resulting in removal of the cabinet liner to insert new ones. Sometimes new units have come with supporting bolts located differently from the original (why, only the factory knew!), requiring location and drilling of new holes. This had to be done with the cabinet lying on its back as there wasn't room in the machinery compartment for an electric drill to operate. I have had new systems come out shortcharged, minus relays, controls, power cords, gaskets, and many other parts to say nothing of wrong units in crates having the correct model number.

Most important of all, however, is the tendency of factories toward

changing only the motor-compressor dome itself—as illustrated by the Kelvinator model F6 home freezer and ironically enough the Frigid Freeze ice cream cabinet so lavishly displayed on the same page as the account of the NARC proceedings. To make that kind of unit replacement is exactly as difficult as re-installing a new or overhauled compressor on an open-type condensing unit.

By the way, how does your truck driver know a unit needs changing? I respectfully refer you to the issue of the NEWS for Oct. 11 in which page 20 contains an article entitled "Wider Use of Refrigeration, Hermetics To Boost Need for Servicemen." Speaking at the meeting of the Illinois Service Engineers Society at Springfield, W. J. Aulsebrook, representing Servel, stated that 30% of all units returned to the factory were not inoperative and the trouble lay elsewhere in the system.

Manufacturers have written volumes in their service manuals begging servicemen to "be sure they were right before they went ahead!" From the agreement reached in Detroit the procedure must have to be about as follows: First the serviceman has to make a call to diagnose the trouble, and then his lesser skilled brother does the actual work. If anything goes wrong—back comes the serviceman—and so on—with the customer footing the bill for all this.

Of course, I assume that they don't mean delivery truck drivers, but if they did it would be just dandy because the transfer company truck-driver-unit-changer could sit in the kitchen and wait for the new unit to cycle—which with a warm cabinet sometimes takes several hours! This allows the driver and his helper to make some overtime!

The name of the organization "National Association of Refrigeration Contractors" suggests commercial work, involving the one kind of her-

metic unit, as previously described, that an unskilled mechanic can't possibly change. It's all right to rate men as apprentice, semi-skilled and skilled, but very wrong to leave the impression (such as that article does) that will be received by thousands of readers all over the country—namely that changing a sealed condensing unit system properly can be done by a truck driver—and readers with no technical experience will interpret that to mean just any truck driver.

I think Paul Reed should comment on this—and I think he will agree with me. It definitely takes a serviceman to change units in a Kelvinator MM or a General Electric NH10 and where are you going to draw the line between them and simple types that a good handy man—acting under instructions might possibly change satisfactorily (if everything went well).

JOHN D. DAVIDSON

P.S. I have been a NEWS subscriber for 12 years, member of RSES for four years, past president of Memphis Appliance Dealers Association, at present manager of the appliance department of a Memphis department store.

DATA NEEDED TO HANDLE DISCOUNTS, TRADE-INS

Box 2777
San Antonio, Texas

Editor:

The writer, who has subscribed to your NEWS for many years would like to know if you have available or have information as to where he could obtain the correct list prices and models of the leading commercial fixture manufacturers.

The reason for requesting this information is to have the facts on hand in combating discounts and trade-in being offered by some distributors and salesmen.

It would seem to me that if this information were published by some reliable authority such as yourself it would help clear up many misunderstandings in regards to discounts and trade-in allowances that are being offered to the customer.

CHARLES F. ZEHNER

FROZEN FOOD BAG AIDS FREEZER DEMONSTRATOR

Owens-Corning Fiberglas Corp.
Toledo, Ohio

Editor:

In your Nov. 15 issue Charles G. Eyster recounts the need of the home freezer salesman for a small frozen food bag which could be used in demonstrating the sales points on frozen foods in connection with the sale of home freezers.

The bag he mentioned made by the Aeronautical Supplies, Inc., was insulated with Fiberglas insulation. Similar courses for such bags are as follows:

Nappe-Smith Mfg. Co.
Southard Ave., Farmingdale, N. J.
Plastic Sheet Fabrication
28 East 73rd St., New York City

JOHN R. MCCORD, Manager
Equipment and Appliance Division

'NEWS' IS READ FIRST, THEN THE EVENING PAPER

Holcomb & Hoke Mfg. Co., Inc.
Indianapolis, Ind.

Editor:

I am primarily interested in the manufacture and distribution of ventilating equipment and consequently have very little direct interest in refrigeration, yet at the same time I have been a reader of AIR CONDITIONING & REFRIGERATION NEWS for several years and truthfully I look forward to receiving my copy in the Tuesday's mail with equal anticipation as to receiving my Kiplinger Report in my Monday's mail.

I almost invariably read my copy of the AIR CONDITIONING & REFRIGERATION NEWS before I read the evening paper. The industry is certainly fortunate in having one with your vision and vigor as its exponent. I have made the efforts on numerous occasions when in Detroit to stop at your office and tell you this in person, but I have been unable to find the time so I want to express it in this letter.

H. E. BLASINGHAM

GOOD FREEZER BUSINESS BUILT UP IN 15 MONTHS

Munising, Michigan.

Editor:

It has taken me three years of concerted effort and application to learn many of the things which you have set down as established "facts of life" in "One Foot" and "The Marshal's Baton."

Your editorial column in AIR CONDITIONING & REFRIGERATION NEWS is a hallowed ground to you, I know, but would you please direct something toward the "brass hats" to the effect that there may be youngsters in their organizations who want and need more than the average sales and service conventions have to offer?

I know of youngsters like myself who would like to learn more about manufacturing, transportation, warehousing, and distribution expense allocations in general even though we are not directly concerned with such operations.

At present, "All that is being taken care of for you—all you have to do is go out and sell." But, time's awastin' and the fellow who wants to know something ten years hence had better start learning now, though he may not have a practical application for his knowledge at the present.

Have recently been out in the field trying to give my fellow dealers a shot in the arm on freezer sales under the auspices of our distributor, and you know, with the average dealer's conception of his duties and

responsibilities toward his product and customers, and with the average dealer's attitude toward his distributor, and with the average dealer's knowledge of merchandising, advertising, and business management—it is a marvel that any business at all is done in these United States.

It appears that the best solution to lower distribution costs in the home appliance field will tend toward a few well cultivated key dealers in each territory or the ultimate in standardization with retail outlets wholly owned by distributors with each distributor having correspondingly smaller territories.

The latter solution seems to be where we are headed anyway. Of course, I'm just a punk and more than likely wrong.

Guess each fellow you talk to wants to tell you about his hardest selling job. Well, it'll only take a minute.

Came into this town cold. Built up a nice business in 15 months, gave what we consider the ultimate in good service, sold freezers like mad (90% were 18-cu. ft. models with no farming population either) with heavy promotion, made a nice piece of change and am now leaving to take a position with our distributor.

To do the right thing I thought the least I could do was find a good dealer for this town even though it hurt my pocketbook, and for the past three months I have been doing my hardest selling job trying to find a dealer in this town of 5,000.

To date, I haven't even been able to give away what I consider the best business in town (without inventory that is.)

And now we know why sales managers die in their middle forties, don't we?

NAME WITHHELD ON REQUEST

MANY COUNTRIES INQUIRE ABOUT CUT-OFF MACHINE

Approved Devices Co.
525 Woodward Ave.
Detroit, Mich.

Editor:

We wish to express our thanks for the great favor you have done us by having our Cut-Off Machine published in a recent issue.

We must say we are very pleased because we have had inquiries from all over the United States, from foreign countries such as England, Norway, Finland, Switzerland, Germany, Cuba, Mexico, Central America, Canada, and South America, as well as from import and export firms in New York. It has been indeed profitable because we have sold machines through these inquiries, and no doubt the customer is pleased with our Cut-Off Machine as we have not had any complaints.

We are developing engineers and, of course, occasionally we think of something practical. As soon as we have another machine, we are going to give you the chance of being first to put it before the eyes of your readers.

DAVID LOPEZ

READING 'BATON' LEADS TO DESIRE FOR NEW BOOK

Price's
133 W. Charlotte St.
Norfolk 10, Virginia

Editor:

Am anxiously waiting for publication of your book pertaining to the retailer.

Having re-read "The Marshal's Baton" for the second time, I'm sure there'll be lots of 'meat' in your new book.

When can I expect delivery?

J. B. Wood

Ranco CONTROLS Specifically Designed For Specific Requirements

THE BERYLLIUM COPPER POWER ELEMENT
Used In All Ranco Controls

Whatever your replacement requirements, there's a Ranco Control designed to meet your needs. On special applications, for example, special power elements are often required, even though the controls are otherwise standard. Ask your Ranco wholesaler to show you Ranco's complete line of controls for water coolers and other special applications. He will be pleased to cooperate with you in selecting the right control for every application.

TEMPERATURE ACCURACY

Temperature accuracy within new lower limits, possible with the new, exclusive Ranco beryllium copper power element, is typical of the added features that make Ranco Refrigeration Controls outstanding in the field.

Ranco Inc.
COLUMBUS 1, OHIO

World's Largest Manufacturers of REFRIGERATION CONTROLS

NEW MODEL!
NEW ECONOMY!
NEW LOW PRICE!

- Low Cost Operation
- Attractive Appearance
- Welded Steel Construction
- Hermetically Sealed Condensing Unit
- Fiberglass Insulation
- Thermostatic Dial Control

16 Large quick release trays . . . 224 cubes per freezing every 4 hours!

[United also manufactures the Deluxe Kubemaster featuring 8 additional freezing trays and a large cube storage compartment covered by a handy Lift-A-Way door.]

Standard Model
KUBEMASTER
ICE CUBE MAKER

United
REFRIGERATOR CO.
HUDSON, WISCONSIN

KRAMER
PANEL UNITS
SOLVE SPACE PROBLEMS

Send for Catalog R-125

KRAMER TRENTON CO. Trenton 5, N. J.

The KEY to AIR CONDITIONING

One of a series from

by James J. LaSalvia

Readers who have any questions regarding the application of air conditioning are invited to write to Mr. LaSalvia, the author of this series, who will be pleased to furnish a complete and detailed answer free of charge. This is another of the services provided by the News.

Automatic Controls (Cont.)

When more than one cooling coil is used, controls as shown in Figs. 19 and 20 may be used for closer control in place of controls as shown in Figs. 16 and 17 for the refrigeration system.

Fig. 19 shows a two-step room manual cooling thermostat (T_2) operating two (2) cooling coils, with a solenoid valve on each coil. This two-step thermostat consists of two thermostats in one casing which are usually set about 2° apart. The operation is as follows:

Assume one thermostat is set at 80° F. and the other at 78° F. When the room temperature is above 80° F., solenoid valves are open because the room is calling for cooling. When the room temperature falls just below 80° F., the solenoid valve controlled by the 80° F. setting is closed. The other solenoid valve is still open and will stay open until the room temperature falls below 78° F.

Conversely, when the room temperature is below 78° F. and starts to rise, the solenoid valve controlled by the 78° F. setting, will open when the room temperature reaches 78° F. If the room temperature continues to rise to 80° F. the second solenoid valve will open.

It should be understood that the solenoid valves control the cooling coils; that when a solenoid valve is opened the coil is placed in operation. Conversely, when a solenoid valve is closed, the coil is taken out of operation.

It is good practice with this kind of control to break up the cooling coil surface or face area, so that one-third of the face area be connected to the higher setting of the thermostat and the two-thirds to the lower setting.

The reason for this is obvious: not to reduce the coil surface too much for the lower setting, as it may be too small for the compressor load and the suction pressure will fall too low, possibly ice up the coil.

This refers not only to two coils, one large and one small, but also

to any number of coils in the face area. If there are more than two coils, the above ratio should be held, and connected to each setting of the thermostat, with solenoid valves in each group of coils.

If an automatic suction control valve is used on the suction line, the coil surfaces can be cut off in any quantity and size.

Fig. 20 illustrates how a more closely controlled room temperature may be obtained. This applies when using four or more cooling coils.

A manual setting modulating type cooling room thermostat (T_m) actuates a step-controller, which in turn opens the solenoid valves on each coil in steps on rising room temperatures, and closes the solenoid valves in steps on lowering room temperatures.

Any number of coils may be operated in this manner.

When using this type of control it is necessary to use the automatic suction control valve on the suction line.

The compensated dry bulb temperature as shown in Fig. 18 may be applied to the above control in Fig. 20.

On many cooling systems heating is provided as shown in Fig. 21.

The heating coil should always be between the cooling coil and the suction side of fan on this type of system.

A manual setting modulating type heating thermostat (H_T), is provided in the room to operate an automatic modulating type steam valve (V_m), located in steam line to heating coil. A low limit duct type heating thermostat (T_l) should be provided in duct at discharge side of fan to operate also the above automatic steam valve.

The room heating modulating type thermostat (H_T) (separate thermostat from the cooling thermostat) actuates the automatic modulating type steam valve (V_m), to open or close according to the demand in a modulating fashion.

The low limit duct thermostat (T_l) serves as a low limit temperature of the air leaving fan, which in most cases is set at about 65° F., and acts to keep the steam valve open only in case the air leaving the fan falls below the setting of 65° F. This low limit thermostat prevents cold air from entering room in heating season only.

It is important in all cases for the cooling and heating coils to be of the same face area, to match and have the same velocity, on this type of system.

(To Be Continued)

Diagrams Show Air Conditioning Control Hookups

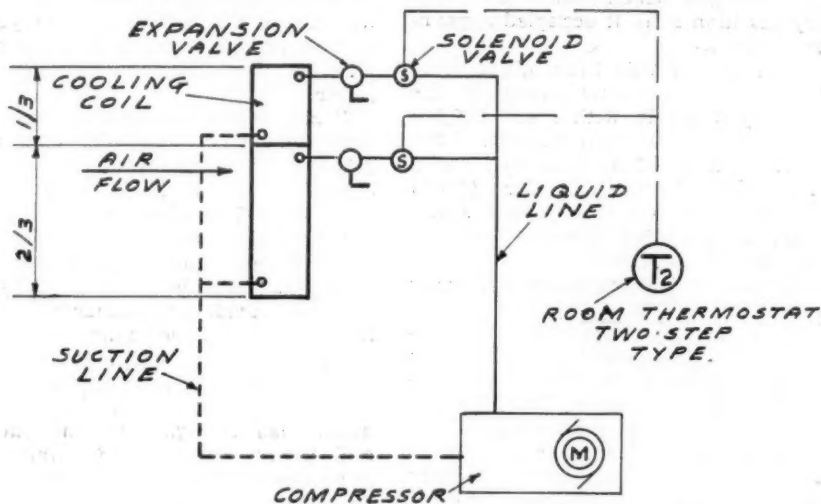


Fig. 19—If two cooling coils are used in an air conditioning system closer control can be obtained by this hookup where a two-step room thermostat controls solenoid valves in the liquid lines to each coil.

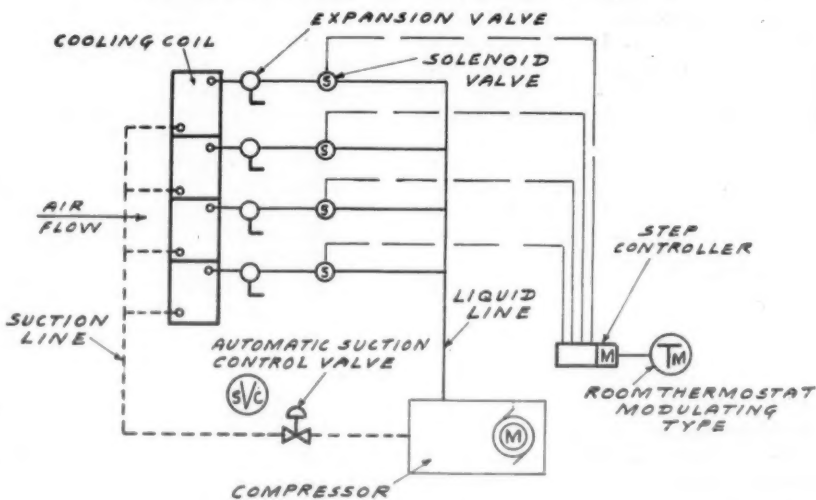


Fig. 20—Even more closer control than diagrammed in Fig. 19 is obtainable with this arrangement, which has four cooling coils and a modulating type room thermostat operating through a step controller to open or close the solenoid valves in the liquid lines for each coil.

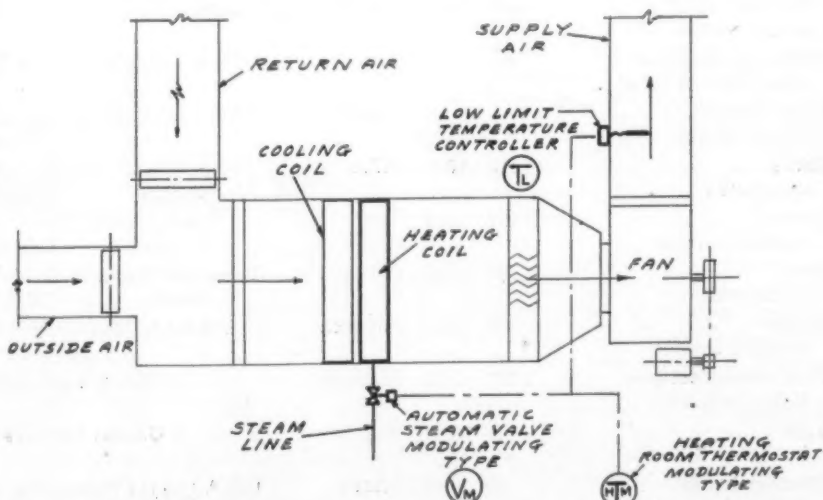


Fig. 21—Recommended control setup for an air conditioning system which includes steam heating coils is shown here, where a modulating room thermostat controls an automatic modulating steam valve to regulate steam flow to the heating coil.

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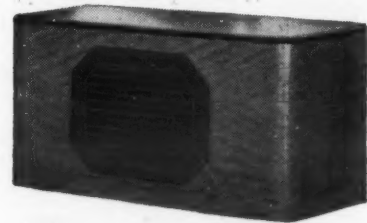


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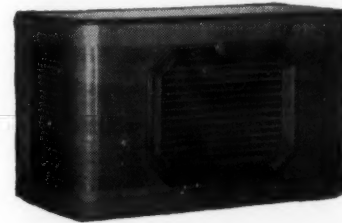
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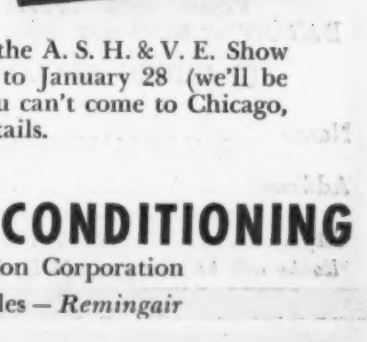
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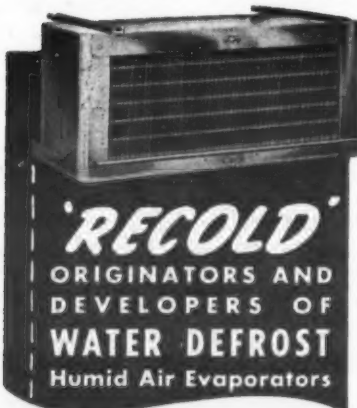
U. S. Pat. 2,219,393

Canada Pat. 394,209

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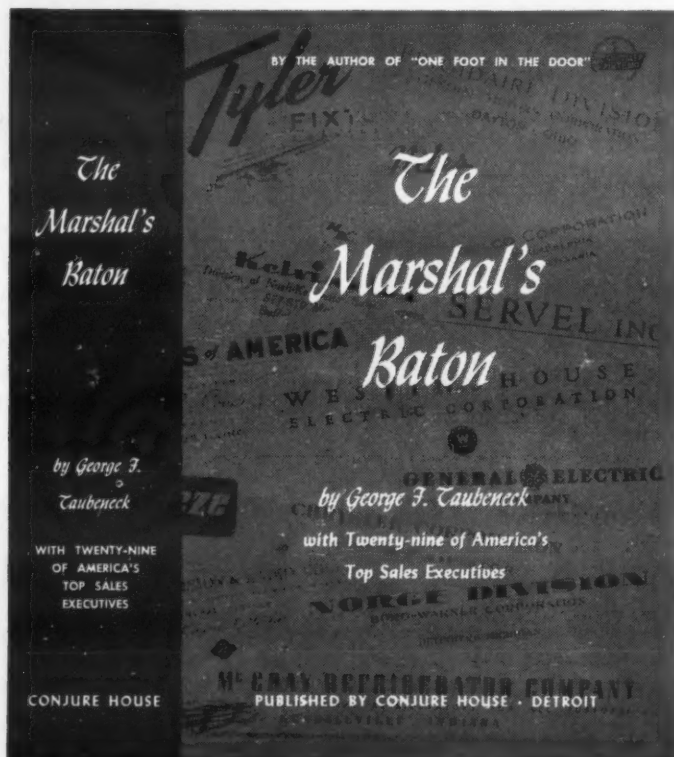
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Argentina's Political Problems Upset Hopes Of U. S. for Profitable Business Relations

By Eugene Hes, International Market Analyst

As American manufacturers and exporters look towards Argentina they face problems scarcely equaled in other foreign countries which they respect and esteem as customers. The Argentine problem for us is economic and political.

When, just prior to the last war, the question was raised as to the intrinsic value of all the American countries with regard to their political stability, their production, their export and import capacity, and especially their solvency, Argentina occupied a very high place, indeed. Many a leading manufacturer or banker would not have hesitated to place Argentina amongst the very best of American countries, ranking practically immediately after the United States and Canada.

Politically this was to be understood, as revolutions seemed to be a thing of the past and relations with the leading western powers ranged from good to excellent. In economic respects the picture was even more favorable.

A survey of the economic features of Argentina which earned the country the high rank it occupied appears in Table I.

A study of this table gives some idea of the economic power of this country which is, with over 1,000,000 square miles, one third the size of the United States of America and has a population of over 16 millions (1947) of which 97% are of European stock.

Of course, this picture does not tell the whole story.

In the first place there are other products in which Argentina always played an important role. For instance the production of quebracho, a very important ingredient for the manufacture of leather, is up to this day dominated by Argentina.

In the second place, Argentina had been a thoroughly sound country from the financial viewpoint, with a sound currency, a balanced budget, and an admirable international credit rating—up to a few years ago.

The last war offered Argentina the chance of a lifetime. It was grasped fully. The products of Argentine agriculture and pastoral activities, besides all other production, have been sold at excellent prices, mostly to the western powers.

A balanced foreign exchange position was transformed into a fantastic surplus of dollar holdings which by far exceeded the \$2,000,000,000 mark at the end of World War II.

But more than that: the foreign

indebtedness of the country, to a large part in American dollars, was wiped out almost completely. Also, the very sizeable British holdings of Argentine railroad shares which were largely built with British money, were bought back and repatriated.

We have witnessed an improvement in the finances and the general economic situation of Argentina, an improvement which has surpassed a former, long existing prosperity and had justified hopes for a complete emancipation of Argentina, thus creating for American industry and particularly for the air conditioning and refrigeration industry (witness the enormous meat industries in Argentina) a wide field for profitable activity.

These expectations for fruitful activity by the American engineer, the American manufacturer, and the American exporter have been disappointed after a splendid start had been made in 1946-47. An abrupt change took place in the economy, created by political aberrations.

The dollar holdings of far over \$2,000,000,000 have been dissipated within the short time of two years so that at this moment a dollar surplus in Argentina exists only on paper.

It still exists in this form, because Argentina has conserved a certain amount of her gold cover for her currency and because, apart from that, several hundred million dollars are available, but pledged for the most urgent imports and for the fulfillment of a long series of international trade agreements which have been concluded more for political than for economic reasons.

How was such a dramatic change possible? After all, the country is sound, has a bright economic future, and many American manufacturers have erected branch factories in Argentina, which, as a consequence of the above-mentioned development are largely idle at this moment, for lack of parts and other essential materials.

The temporary upset of Argentine economy has a purely political background. A typical example of the existing state of affairs is the fact that the present government has issued a decree by which the export agency of the state which monopolizes export buying and selling, is directed by an intimate friend of the highest government official, who has been expressly permitted to publish no accounts and no balance-sheet whatever. These methods are being widely

Table I

Product, etc.	Quantity	Year	World Rank	Comparison to Other Countries
Wool production lbs., million	518	1945	Second largest	Australia: 879; U.S.A.: 299 (1946) (1946)
Meat production tons, thousands; m.a.*	82	1945	Third	U.S.A.: 581; Russia: second
Horses thousands	7,473	1945	Third	Russia: 17,500; U.S.A.: 8,200 (1938) (1946)
Sheep thousands	58,180	1945	Third	Australia: 106,000; Russia: 63,400 (1945) (1943)
Cultivated land acres, million	64.8	1946	Fourth	Russia: 590.6; U.S.A.: 334.9
Cheese production tons, thousands; m.a.	6.7	1945	Fourth	U.S.A.: 42; New Zealand: 8
Total exports U.S. \$, million; m.a.	79.7	Jan./Aug. '46	Fourth	U.S.A.: 787.2; England: 305.6
Cattle thousands	34,010	1945	Fifth	India: 208,231; U.S.A.: 79,791 (1940) (1946)
Corn bushels, million	117	1944	Fifth	U.S.A.: 3,288; China: 273 (1946) (1940)
Hogs thousands	8,100	1945	Seventh	U.S.A.: 62,300; Brazil: 25,000 (1946) (1942)
Wheat bushels, million	200	1946	Seventh	U.S.A.: 1,155; Canada: 440
Total manufactures U.S. \$, million	1,527	1939	Seventh	U.S.A.: 56,829 (1939)
Oats bushels, million	76	1944	Eighth	U.S.A.: 1,510 (1946)
Crude petroleum million barrels	23	1945	Ninth	U.S.A.: 1,711; Venezuela: 323

*Monthly averages.

Note: Yearly figures have been chosen for better comparison.

followed at present in the entire economy. Harvests of Argentine linseed oil, formerly a heavy producer of foreign exchange, have been stored in every available space, including gasoline tanks. The government was even forced to prohibit the further crushing of linseed kernels for lack of storage space.

This is because an enormous amount of Argentine production cannot be sold in world markets at the prices which the Argentine government agency wishes to obtain.

These prices are in many cases two to three times as high as those which the government pays out to the Argentine producer.

It is understandable, even from the above sketchy account, that this situation cannot continue. The present economic leaders of the Argentine economy have succeeded in completely clogging up Argentine production, and have antagonized the farmer, the meat processor, the exporter, and the importer.

They are holding their own by a system of favoritism. But Argentine economy cannot exist without a regular flow of its products to foreign markets. It cannot be developed and achieve the planned industrialization without imports from the American and the British industries.

Thus the country has clearly arrived at the crossroads. International trade for Argentina means in many cases 90% of the sale of the production, not 10%, as is the case in many an American industry.

It is to be hoped, in the interest of the country itself, that a reasonable attitude will return and the gates will again be open for a normal business intercourse with an intrinsically sound country, containing a largely very friendly population, starved for American products.

Carrier Issues World-Wide Marine Service Directory

NEW YORK CITY—The Carrier World-Wide Marine Service Directory, a booklet listing all Carrier Corp. representatives equipped to render marine service, has just been published by Carrier's International Division here.

Representatives located at or near seaports, as well as the Marine Department's U. S. service stations are listed by name, street address, telephone number, and cable address.

The booklet also has been distributed to the chief engineers of the several thousand ocean-going vessels equipped with Carrier air conditioning and refrigeration.

Refrigeration-Equipment Market In South Africa on Increase

WASHINGTON, D. C.—Rapid expansion of agricultural pursuits in the Union of South Africa is resulting in use of an increasing amount of refrigeration equipment, a report by the Office of International Trade, U. S. Department of Commerce, indicates.

"Extensive refrigeration is required for the large fruit crops, pre-cooling chambers at Capetown alone accommodating 6,000 tons of fruit," the report said. "Similar stations are located at Durban, Port Elizabeth, and East London. The meat industry is a large consumer of refrigeration apparatus."

Gilliand Resigns as Gen. Mgr. Of Distributorship In Honolulu

HONOLULU, Hawaii—Ross Gilliand, executive vice president and general manager of Electrical Distributors, Ltd., here and one of the founders of the firm, has resigned to return to the mainland.

Gilliand has lived in Hawaii for 10 years, and, prior to joining E.D.L., was associated with W. A. Ramsay, Ltd. He had no immediate business plans, but, with Mrs. Gilliand and their two children, he was to make his home in Superior, Ariz., for the time being.

Australian Firm Opens Branch

SIDNEY, Australia—Recent opening of a branch in Melbourne has been announced by F. C. Lovelock Pty. Ltd. here. Provided with up-to-date parking, shipping, and receiving facilities, the branch was described by the company as "the most modern and best equipped refrigeration and air conditioning headquarters in the Southern Hemisphere."

Facts To Help Refrigerated Warehousemen Store Record Peanut Crop

BIRMINGHAM, Ala.—With the biggest peanut crop in history and the largest pecan crop since 1928 coming up, refrigerated storage of these two products takes on increasing importance, it was indicated by Dr. J. G. Woodroof of the University of Georgia in a discussion on "Storage of Nuts" given before warehousemen here recently.

Products Which Imparted Flavors to Cold Stored Peanuts

Product	No. Reporting
Fresh fruit	52%
Dried fruit	18%
Onions	6%
Pickled herring	6%
Hops	6%
Cheese	6%
Animal skins	6%

age of Nuts" given before warehousemen here recently.

This talk was one of many presented by various speakers during a four-day regional training conference for refrigerated warehousemen sponsored by the Refrigeration Research Foundation and the Southeastern Chapter of the National Association of Refrigerated Warehouses.

That refrigeration is needed for storage of nuts, especially shelled peanuts, has long been stressed by Dr. Woodroof, but now he also says "we have extended refrigeration into numerous other products beyond the peanuts themselves, such as candy. Refrigeration is needed for nuts," he explained, "because:

"1. Nuts are fatty.
"2. They have a high protein content.
"3. To combat insects."

Of the latter reason, Dr. Woodroof declared that "the Federal prison at Atlanta refrigerates everything to prevent the activity of insects. Cool-

ing to 48° F. makes insects inactive."

Cold storage of peanuts has become an increasingly large business, according to his figures, which show a jump from the 13,607,300 lbs. cold stored in 1941 to 51,674,862 lbs. stored in 1946. Estimates for 1948 indicate that 2,075,000,000 lbs. of peanuts will be available for storage.

Disadvantages of Cold Storing Peanuts

Disadvantages	No. Reporting
Increased cost	21
Absorb too much moisture	10
Possible mold	5
None if humidity is below 50%	1
Green peanuts will not dry out	1
Peanuts must be used quickly after being removed from storage to prevent sweat and mold development	1
Nuts deteriorate faster after cold storage	3
Extra handling, delivering	3
Absorb odors	2
Lost flavor	1
Slow roasting	2
Increased time before roasting	1
Tends to decrease efficiency of blanching	1
Dry looking cooked and salted	1
Prefer "just shelled" to cold stored peanuts	1
Loss by careless handling	1
Rodent contact due to carelessness	1
Unprofitable on a declining market	1

In preparing rooms for cold storage of peanuts "cleanliness is of first importance," he emphasized. "At the beginning of the season the rooms for peanuts should be thoroughly cleaned and the walls sterilized and whitewashed. An odorless fungicide should be used. A good whitewash may be made of 50 lb. of hydrated lime, 15 gal. of water, 10 lb. salt, 2 lb. alum, and one bar of soap.

"Peanuts should be inspected for grade and quality when received for cold storage. This should include a record of the percentage that are rotten, discolored, moldy, or insect-infested, as well as the moisture con-

Who Cold Stored Peanuts In 1941 and 1946

	1941		1946	
	Unshelled Lbs.	Shelled Lbs.	Unshelled Lbs.	Shelled Lbs.
Shellers	0	5,400,000	0	9,200,000
Warehousemen	130,000	2,488,654	680,624	15,323,950
End-users	209,642	5,379,004	1,049,128	25,082,254
Total	339,642	13,267,658	1,729,752	50,407,204

tent, rancidity, and general appearance.

"The storage temperature should be as near 32° F. as practically possible with air circulated throughout the room," Dr. Woodroof said. "While a refrigerated storage temperature of only 44° to 48° will keep out insects, and this is the big problem which can't be handled by fumigation alone, the 32° to 34° temperature retards rancidity and preserves the peanut odor and flavor.

"With this temperature shelled peanuts in suitable bags could be kept for from one to three years without suffering."

Generally speaking, he said, shelled peanuts take up much less space and weight than the unshelled product, but keep only one-third as long. Likewise, peanuts without their skins last only one-third as long as unshelled peanuts stored with skins on.

"The relative humidity of the storage rooms should be 70% to 75%," Dr. Woodroof stated. "With relative humidity above 80% the peanuts will mold, while at 70% to 75% peanuts will keep a year or more. At 75% r.h. peanuts will retain 6% to 7% moisture, which is a little high. Around 70% is the best, and at this the nuts retain about 4% to 6% moisture. The room has to be just about dry for proper humidity, al-

but they can be safely handled with products of low moisture content without prominent odors, such as rice, popcorn, dried milk, dried eggs, candy (other than peppermints and soft chocolates), other nuts, blocked chocolates, and canned goods.

"Some dried fruits can be stored with peanuts although they can be troublesome," he declared. "Dates are okay, provided they are well packaged."

Bags for storing peanuts should preferably be of burlap with inner layers of asphalt and crepe paper, according to Dr. Woodroof.

"Since the sheller uses the bags to begin with, it is up to the customers

Advantages of Cold Storing Peanuts, as Reported by Shellers and End-Users

Advantages	No. Reporting
Prevent insect infestation	34
Prevent or retard rancidity	6
Maintain quality	6
Supply during slack period when needed	4
Light skinned peanuts all year	4
Buy at low market during fall	3
Supply until delivered from sheller	2
Stay firm and sweet	1
Hold moisture	1
Less shrinkage	1
Use when facilities are crowded	1
More stabilized production, less forced sales, better service to customer	1
Very satisfactory in hot weather	1
Prevent rodents	1

and the warehousemen to demand better bags from the sheller."

The fact that peanuts will readily pick up odors is important in their storage, so they should be stored only with non-odorous products.

"Should undesirable odors develop in the peanut storage room, they should be removed as quickly and completely as practically possible by the use of carbon filters," he suggested.

"The amount of odor absorption is in direct relation to temperature. The

lower the temperature the lower the amount of odor absorption. At first odors only penetrate the surface of peanuts and may not show up in flavor at early stages.

"Should it be necessary to store peanuts with a moisture content above 7%, they should be used with-

Months When Peanuts Were Cold Stored

Month	Number of Warehousemen
January	2
February	2
March	5
April	7
May	20
June	21
July	17
August	17
September	17
October	5
November	5
December	2

in two months, or before other peanuts of the same lot with lower moisture content," Dr. Woodroof also advised.

As for peanuts picking up moisture upon coming out of cold storage, he said that "we haven't been able to detect any increase in weight of peanuts when coming out of storage. The rate of evaporation is just about equal to the rate of condensation."

In addition to the discussion, Dr. Woodroof made available to the warehouse statistical data on cold storage of peanuts obtained from a survey of 41 shellers, 80 warehousemen, and 63 end-users such as peanut butter manufacturers and peanut roasters, and salters. Some of this information is published on this page in tabular form.

Preferred Temperatures for Storing Peanuts

Temperature °F.	Number of Preferences
30-32	12
32-34	29
34-36	26
36-38	14
38-40	19
40-42	11
42-44	6
44-46	7
46-48	5
48-50	5

Preferred Humidity for Cold Storing Peanuts

Relative Humidity	Number of Preferences
85-90	1
80-85	1
75-80	13
70-75	16
65-70	10
60-65	3
55-60	3
50-55	2
45-50	2
"dry"	8

Who Preferred Them

	Temperature Range, °F.	Preferred Average, °F.
Shellers	32-50	43.0
End-users	30-50	38.7
Warehousemen	30-40	33.5

though maintaining the right humidity is a big problem.

"Are peanuts worth storing in a separate room or can they be mixed with other products? Probably they should be stored in a separate room,

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Storage capacity—approximately 900 cubes plus 294 cubes in trays.

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80 Broad St., New York 4, New York

Ponon Is National Factory Agent for Haldorf Mfg.

PHILADELPHIA — Haldorf Mfg. Co., here recently announced the appointment of Irving A. Ponon, of New York City, as national factory representative for the Haldorf line of frozen food and ice cream merchandising cabinets.

Ponon was recently with Refrigeration Corp. of America. He will continue as president of the Iroquois Commercial Corp. and will make his headquarters at 250 W. 57th St., New York City.

Haldorf also announced the appointment of the Thermo-Temp Equipment Corp., 899 First Ave. New York City, to represent the firm in this metropolitan territory. Maurice H. Spivak is president of Thermo-Temp.

Baker Ice Announces New 30-Page Catalog

SOUTH WINDHAM, Me.—The Baker Ice Machine Co., Inc., here has announced the publication of a new 30-page, illustrated catalog giving complete specification on the full Baker line of valves, liquid gauges, and other fittings for all types of commercial and industrial air conditioning and refrigeration installations.

Also included is a brief description of the wide variety of compressors, condensing units and auxiliary equipment supplied by Baker for use with both "Freon" and ammonia refrigerants.

Printed in standard 8½ x 11-in. format for convenience in filing and reference, this new catalog is also punched for use in regular 3-ring binders.

Copies may be obtained on request by writing for Catalog No. 865, Baker Ice Machine Co., Inc., South Windham, Me.

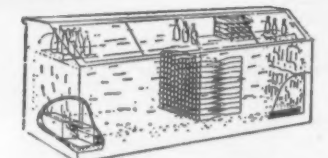


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WANTED

Sales Engineer-Commercial Refrigeration Coils

We require a representative to travel the states of Minnesota, Wisconsin and Iowa. He must have the following qualifications:

- Thorough knowledge of commercial refrigeration and coils in particular. Graduate engineer preferred.
- Must intimately know manufacturers and jobbers in the area.
- Past record must bear strict investigation.
- Age—35-45.

To the right man this position offers a permanent connection, with substantial remuneration. One other line can be handled providing it meets with our approval. Your reply will be treated strictly confidential.

BETZ CORPORATION
HAMMOND, INDIANA



This type open display helped counterman sell 12 motors to one customer.

Product Display Selling PLUS Alert Countermen

They Equal Increased Parts Sales for Wholesaler
Who Adapts 'Supermarket' Methods to His Field

By James H. Downs, Refrigeration Supplies, Cleveland

Let's find a new term to describe the open store and display table type of refrigeration wholesale store. That the term "Self-Serve" is wholly misleading is proven again by a recent headline in AIR CONDITIONING & REFRIGERATION NEWS which reads, "Personal Counter Service Found Preferable to Self-Serve by Baltimore Parts Wholesaler."

Since we first started "table display" method of selling about four years ago all of us have called it Self-Serve simply because the method of display so closely resembled that of a Self-Serve retail store. However, that term is far from descriptive of the theory behind our method of operation, and our customers are not asked to actually serve themselves without assistance from a counter salesman.

A true Self-Serve store is laid out in exactly the same manner as our store, with all merchandise on open display tables or racks, except that the "check-out" counter is located at the exit door. The theory behind this is that customers will select their own items without assistance from a clerk, and that resultant savings in manpower will be passed along to the consumer in lower prices.

While this actually works in the grocery field, we don't believe that it is practical in the refrigeration supply business. Selling refrigeration supplies requires more technical knowledge than is needed in selling groceries.

Only one factor influenced us in adopting "Product Display Selling," and only one factor has convinced us of its value. That is, INCREASED SALES. We have never believed that we could sell more, or even the same amount of, merchandise with

fewer countermen. It is that point that most of the misapprehension has come about in regard to our method of selling.

"Personal Counter Service"? YES, by all means. Only in that way can a wholesaler realize the full benefit of Product Display Selling.

Now let's see how we can actually get increased sales. In order to get to our counter, (Which is actually a U-shaped island as shown in the picture on this page) a customer must pass 14 display tables, on every one of which there is a stock of actual merchandise.

COUNTERMAN HAS INFORMATION

If he delays at any one of these, a counterman is there to assist him. He then proceeds to the sales counter, where he places his order. While this order is being filled and billed, he is free to circulate through the store to examine any items that might attract his attention. As soon as this happens, the counterman is there to give him any information necessary, and to complete the sale, and make delivery on the spot. (Have you ever taken days to decide to buy, and then wanted delivery at once?)

The theory behind Product Display Selling and that of the true Self-Serve store is exactly the same. I am sure that every one of you have had the experience of entering a "Supermarket" to buy a can of beans and coming out with your arms loaded. The same impulse that caused you to buy all of those extra grocery items results in increased sales for us.

If we could get the same results with display boards placed around a sales floor in front of a counter we'd certainly do that. If only for the reason that we'd save a lot of space.

People just don't buy as readily from a single item fastened to a display board as they do from a stock of merchandise right in front of them. We do use display boards, but we use them to attract attention to the stock of merchandise on which they are placed.

Every wholesaler knows that certain items, such as tools, flashlights and batteries, etc., must be displayed to sell. You can put signs all

over your store advertising the fact that you sell flashlight batteries, and still not sell them. But, just put a carton of batteries on your counter and watch the sales soar. We had long recognized that fact, and always had displays of various items on our counters.

We also found that items displayed in a glass case didn't sell nearly as well as those items on the counter. We tried moving the same item from a display case to the counter and vice versa, and the results were always the same. The open display outsold the display case three to one. However our counter space was so limited that we could only have a few items displayed at one time.

Therefore we were interested in an account in AIR CONDITIONING & REFRIGERATION NEWS, which described how a radio parts wholesaler had increased his business by Product Display Selling.

With the experience described above in our minds, we began to wonder how many items we had in stock that we had never displayed but would sell better if displayed. Since we were moving to larger quarters, that seemed like an excellent time to find out. We did that, and as has been described in previous items in the NEWS, the results were often amazing.

'PREFERRED' LOCATIONS HELP

We don't believe that there is a single item in our store on which we can't increase sales by giving it one of our "preferred" locations and mass display.

Here is an example: A customer entered our store, went to the counter and ordered several items from a list in his hand. While these were being assembled, he looked around and stopped at a display of electric motors. He stood in front of the display for a moment, and then began to examine the name plates. When our counterman went over to him, he had selected two motors. Our counterman explained to the customer the advantages of signing up for a dealership in motors, which requires the purchase of ten motors, and since then we have received the signed contract along with an order for ten additional motors.

The display sold two motors, and

the display PLUS the counterman sold 10 more motors.

No, we're not theorizing or guessing about the value of Product Display Selling. The foregoing incident could be multiplied by the thousands in our four years of this type of selling. We have made actual checks, repeatedly, and every check shows that we are actually selling more merchandise as a result of mass display PLUS sales minded countermen.

We don't pretend that Product Display Selling is a panacea for all sales troubles. Nor do we think that it is a substitute for any of our normal sales activities. But we do say, and we can prove, that it will bring about a handsome increase in counter sales.

Product Display Selling has its pitfalls and disadvantages. The first requirement for its success is that a wholesaler must have a fairly heavy store traffic. It does help to increase mail and telephone sales by making the customer aware that we have certain items that he might order later by phone or mail, but we have no method of proving such results.

Display selling does require a substantially larger floor space. It requires some ingenuity in arranging displays. Certain locations prove to be better than others, and displays must be rearranged at frequent intervals in order to keep the customer's interest aroused. If displays remain the same they lose some of their value. We don't pretend that we have "all the answers."

We're learning every day. But if any wholesaler is interested in increasing his counter sales in this way, we will be glad to answer any questions to the best of our ability.

But please, don't call ours a Self-Serve store. We are not that, and we don't believe in it!

E. F. Wendt Sees '49 'Normal' Year for Buffalo Forge Co.

BUFFALO — Edgar F. Wendt, president of Buffalo Forge Co., reported that his company ended 1948 with a "comfortable backlog of business and expects a normal year in sales and shipments during 1949." "Export sales prospects are good," he said, "especially where shortages impose less restrictions."

Diffusion Type
UNIT HEATERS
For low-pressure
steam and hot water
Wall and Ceiling
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For all above-freezing applications
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MERCHANT & EVANS CO.
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Since 1925

E-Z SEE LIQUID INDICATORS
CAN'T LEAK!

Because...
Remco's unique foolproof construction provides that springs in each end form a positive seal on the Neoprene gaskets by automatically compensating for 'cold flowing' and difference in expansion and contraction between the glass and the body. E-Z-See is easy to see thru—and guaranteed perfectly safe for working pressures up to 500 PSI.
Bulletin available on request.

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**NO
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with this **DIRECT READING SCALE!**

No addition...No subtraction...you set the "cut-in" and "cut-out" points directly with this simple "sight-set" calibrated scale on the PENN 270 Series Control. Never before has it been so easy to make required adjustments as now with this new air conditioning and refrigeration control by PENN. For the first time here is a control

with a load carrying, 2-pole construction—actually two switches in one. And you pay no premium for this extra value. Ask your wholesaler or write for Bulletin 2652 describing this versatile new control. **Penn Electric Switch Co., Goshen, Ind. Export Div.: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls Ltd., Toronto, Ontario.**

PENN
AUTOMATIC CONTROLS
FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

New Condenser Cuts Refrigeration Costs Saves Cooling Water

• The Niagara Aeropass Condenser cuts the cost of refrigeration by running compressors at lower head pressure, saving up to 35% of power.

The refrigerant gas passes thru two coils in an air stream. The first, "Duo-Pass"™ dry coil, removes the superheat by air cooling and condenses oil vapor. The second, condensing coil, drenched by recirculated water spray, condenses by evaporation, transferring to the air 1,000 BTU for every pound of water evaporated and saving more than 95% of the water used by water-cooled condensers. This done at low temperature, no scale forms on condenser tubes to clog air passage.

Between the two coils is the "Oilout"™, which purges the system of crankcase oil and dirt, keeps it always at full capacity.

The "Balanced Wet Bulb"™ control holds head pressure low, automatically giving the full benefits of power saving in cool weather and providing always full capacity for peak loads.

Units range from 10 to 100 tons capacity.
For full information ask for Bulletin 103.



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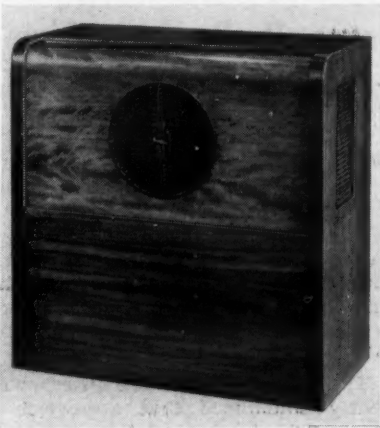
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What's New



Controls Concealed In Fedders-Quigan Room Unit

BUFFALO—A new 3/4-hp. console model room air conditioner has been added to the constantly growing line of Fedders products, E. A. Bonnevill, sales manager of the unit air conditioner division of the Fedders-Quigan Corp., announced recently.

The new unit has a certified rating of 8,500 B.t.u. under standard ASRE conditions and circulates a total of 300 c.f.m. of conditioned air, including up to 50 c.f.m. of outdoor air for ventilation when desired. It has a pump-out capacity of 100 c.f.m.

All control knobs have been concealed under a lift top, leaving the surface of the cabinet clear of obstructions.

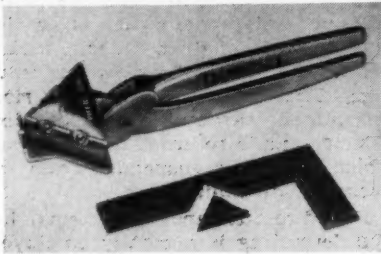
A simple 4-way position switch controls the various fans and motors. The first position, "off"; the second position, "fan" operates only the evaporator fan for circulating the room air without cooling; third position, "exhaust" operates both fans on pump-out; fourth position, "cool" operates entire unit for cooling and recirculating the room air.

The cabinet of the new unit is highly finished mahogany. The built-in circular grille, suspended from a central axis, permits finger-tip set-

tings so that the air may be channeled in any desired direction.

Outside dimensions of the unit are 33 1/2 in. wide, 35 1/2 in. high, and 18 1/2 in. deep. It occupies only 4 1/2 sq. ft. of floor space. The cabinet is provided with an expandable base to allow for varied window heights or wall openings and may also be furnished with casters to allow for transfer from room to room as desired in either hotel or hospital installations.

The new units will be available on or before Feb. 15.

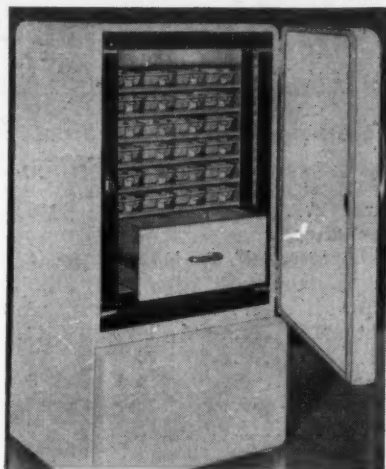


Notcher Cuts Gaskets On Refrigerator Doors

PORT JERVIS, N. Y.—Addition to the Techniflex refrigeration line of a new plier-type door gasket corner notcher, enabling gaskets to be cut directly on refrigerator doors, was announced recently by Norman A. Gaboriault, president of the Techniflex Corp. here.

The new notcher features a center indicator line, enabling the 90° mitred cut to be located exactly at the point where the corner is desired. The plier-type construction eliminates the need for pre-notching or removal of gaskets from refrigerator doors for cutting, thereby saving time and reducing spoilage.

The light-weight pliers, made of high-grade aluminum alloy, heat treated to insure high tensile strength, are designed to permit quick, low-cost replacement of the tempered precision blades in the event of nicking, he added.



Jordon Refrigerator Adds Upright Ice Cuber to Line

PHILADELPHIA—A new model 7-IM upright ice maker for the freezing and storing of ice cubes has been introduced here by the Jordon Refrigerator Co.

Jordon said the new ice maker will store a complete freezing of 336 cubes. It is equipped with 24 ice cube trays that will deliver approximately 3 1/2 to 4 freezings per day for a total of 1,400 cubes or 200 lbs. of ice daily. A storage drawer that will hold a complete freezing is directly below the trays.

The unit, which has the general appearance of a household refrigerator, measures 57 1/2 in. high, 26 1/2 in. wide, and 25 1/2 in. deep. Exterior finish is of hi-baked white enamel on Bonderized steel. The storage drawer operates on ball bearing rollers.

The ice cube maker is equipped with a self-contained heavy duty condensing unit.

Jordon said that it is in current production on the model and that deliveries are being made to dealers.



'Signal' Guards Against Overheating G-E Blankets

BRIDGEPORT, Conn.—A complete line of three deluxe General Electric automatic blankets to complement the standard G-E blanket line has just been introduced.

In addition to the double-bed one control deluxe model, double-bed two control, and twin-bed one control deluxe blankets will be available.

By the use of a "signal" wire and an ingenious control circuit, thermostats within the blankets have been eliminated. In the same special insulating jacket as the heating wire is a signal wire separated from it by an insulating material. When required this combination sends a signal to the control unit to guard against overheating.

The degree of warmth is regulated by a redesigned plastic bedside control which automatically compensates for normal changes in room temperature and thus provides the same correct warmth at all times. A light indicates when the control is on.

The double-bed models in the deluxe line are over-size, measuring 80 in. wide by 86 in. long. Heated area of these blankets is 55 by 70 in. The twin-bed blanket is 66 in. wide by 86 in. long with a 41 by 70-in. wired area.

The blankets are available in pastel shades of rose, blue, green, and cedar.



FORD

ASPHALT MASTIC BOARD

The ideal vapor barrier. Keeps insulation dry. A money saving waterproof replacement for treated woods and plastics. FABRICATED TO ANY SHAPE AND SIZE. For Breaker Strips — Cold Air Ducts

Ford Distributing Co.
1129 E. 45th St., Chicago 15, Illinois

New BTC Frozen Food Case Can Be Moved on Casters

BINGHAMTON, N. Y.—A new portable BTC model DC-6-2 frozen food display case with 5 1/2-cu. ft. capacity has been announced by C. H. Beane, sales engineer of the refrigeration division, Brewer-Titchener Corp., here.

The new model measures only 23 1/2 in. wide, 37 1/2 in. long, and 36 in. high, according to Beane, yet it will hold about 190 average size packages of frozen food.

The unit is mounted on casters and can be moved to any location desired by the owner, he said. Operation is completely self-contained and requires only to be plugged in to go to work.

Santocel insulation is used to reduce wall thickness. A low-level superstructure gives the case an over-all height of 54 in.

The top of the cabinet is stainless steel while the exterior is done in baked white enamel. Heavy 16-gauge steel is used throughout the cabinet and superstructure.

The unit is equipped with a full-length angle mirror and a removable night lid.



A 1/2-hp. hermetically sealed compressor provides the capacity to maintain 0° F., Beane said.

The unit is currently in production and has successfully passed field tests, according to Beane.

Carrier Corp. Unit Heater Tears Down Easily

SYRACUSE, N. Y.—A completely new line of unit heaters for steam or hot water, featuring a heating coil claimed to be revolutionary in design and efficiency, is announced by Carrier Corp.

The new line is streamlined in style and light in weight, without reducing the durability needed for heavy-duty industrial applications.

Operational noise has been reduced to a minimum, and even the largest units are in the same sound range as the ordinary household electric fan.

The new heating coil is constructed of one-row Aerofin coils of continuous U-bend copper tubing brazed into steel headers. Deeper and wider fin spacing minimizes resistance to air flow and facilitates cleaning. The deep fins give better heat transfer.

The light weight, simple design makes the suspended unit easy to install. Service is even simpler. The coil can be completely cleaned in a matter of a few minutes. The whole



unit can be disassembled by the removal of only four bolts and four screws.

SELL

DISPLAY CABINETS
QUICKFREEZERS
BEVERAGE COOLERS

Victor

MILK COOLERS
ICE MAKERS
WALK-INS

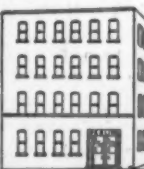
WRITE
VICTOR PRODUCTS CORP.
HAGERSTOWN, MARYLAND



An Old Favorite Back Again! OLYMPIAN BOTTLE COOLERS by Perlick for IMMEDIATE DELIVERY

Perlick "Olympian" Bottle Coolers, in standard baked black or the new all stainless steel are now available for prompt shipment in 4 popular sizes. Now vastly improved for maximum bottle cooling performance. Write for Bulletin No. 56.

Also Ice Refrigerated Models



PERLICK

BRASS CO.

3110 W. MEDFORD AVE.
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at NO EXTRA COST The new quick-opening set-lock assembly on the Kno-Draft Air Diffusers

Cuts installation and maintenance time

Instant Cleaning and Inspection: With the new quick-opening Type HD set-lock assembly, the inner element of the Kno-Draft Adjustable Air Diffusers can be quickly removed and re-installed while the diffuser is in place without affecting its adjustment.

It takes but a minute—requires no tools: The "B" cone or inner element of the diffuser is secured to the combined suspension and adjustment screws by a springloaded catch which is kept in compression by a slotted washer. The holes in "B" cone pass over the bolt heads. All you do is press up on cone "B" and insert or remove washers.

Visit booths 427-429 at the 9th International Heating, Ventilating & Air Conditioning Exposition, International Amphitheater, Chicago, Jan. 24 to 28.

FREE HELPFUL LITERATURE

- ☐ Bulletin K-21: Details on Type HD Set-Lock Assembly.
- ☐ New handbook on air diffusion: Shows how to create "custom-made" air patterns and eliminate drafts.

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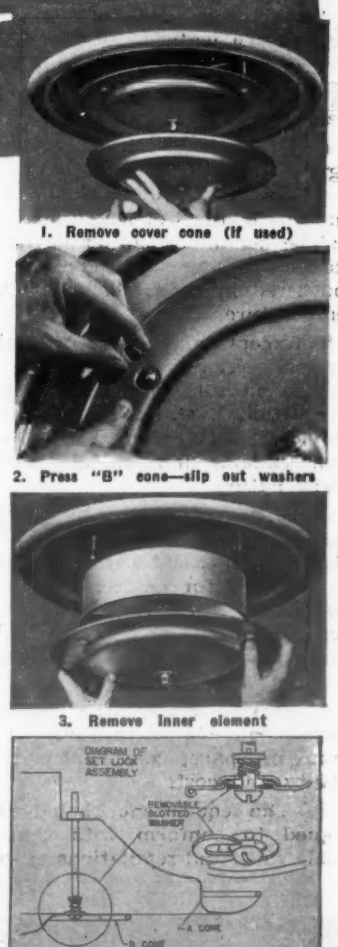
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Now standard equipment on Kno-Draft Diffusers

Marine Refrigeration Demands Compact Units with Flexible Capacity

Talk by S. W. Brown, of Carrier, Details Methods Employed Aboard Ships

SYRACUSE, N. Y.—Marine refrigeration techniques have progressed not only by virtue of refrigeration engineering progress generally, but also out of the experience gained during World War II, and changes in world food demands and customer's tastes, it was pointed out by S. W. Brown, chief engineer of the Marine Department of Carrier Corp., in a talk before the Institute of Food Technologists meeting here recently.

"The refrigerated cargo vessel is an important factor in the alleviation of food shortages through the transportation of perishable foods from areas of want," Brown declared.

Pointing out that much attention is now being given to the quick-freezing of fish and sea food, Brown said that with present methods of icing only the "top of the catch" is of high enough quality to be sold at a premium.

"With quick freezing at sea properly applied, the entire catch should be of premium quality," he declared.

"Preliminary tests, using new techniques, have been encouraging. It is proposed that the fish will be quick frozen in the round aboard the fishing vessel immediately after the catch. Later on shore the fish will be defrosted to cut out fillets, which, will in turn be re-frozen and stored. Valuable by-products, which are now mostly dumped overboard, would be recovered on shore to produce fish meal, vitamin oils, and other pharmaceutical products."

HOW MARINE SYSTEMS DIFFER

The following were listed by Brown as among the reasons why Marine refrigeration differs from shore practice:

1. The installation should be designed to function properly under conditions of roll and pitch, to which a ship is normally subjected.
2. The equipment should be suitable to withstand normal usage under the corrosive effects of sea air and sea water.
3. The installation should be designed to suit the physical arrangement of the ship.
4. The installation should be designed to operate through the complete range of climatic conditions through which the ship must travel and be capable of adjusting itself to sudden changes frequently encountered in the ambient sea water temperature.
5. Except in the case of a single-purpose vessel, such as a meat carrier or a banana ship, cargo refrigeration installations should be provided with refrigerating equipment capable of preserving cargo of every nature.
6. Since ships enroute cannot be easily serviced from land based planes, it is essential that the system be designed for uninterrupted operation during the voyage. Accordingly, stand-by plants or easily replaceable spare parts should be furnished.
7. In view of the high premium for cargo space, the equipment should be designed to occupy a minimum of space, consistent with reliability and cost.
8. The equipment should be designed to conform with the applicable rules and regulations of various

regulatory agencies such as the U. S. Coast Guard, the U. S. Public Health Service, the American Bureau of Shipping, Lloyd's Registry, U. S. Maritime Commission, American Institute of Electrical Engineers, and the U. S. Navy.

9. In addition to the above, in the case of Naval vessels, many stringent requirements must be complied with, such as shockproofness, which further complicates the design of Marine refrigeration plants.

Marine refrigeration has two general classifications, (1) Ships' Stores, and (2) Cargo Refrigeration. Other applications such as fish freezing and processing have not had enough installations as yet to justify a separate classification.

The ships' store plant provides the refrigeration for the compartments containing the perishable foodstuffs required for the feeding of the crew and passengers during the voyage. Occasionally this plant also provides the refrigeration for ice-makers, drinking water and galley-boxes.

WAR ORDER ON PERISHABLES

Valuable experience was gained during World War II, regarding the care of perishables in ships' stores. Serious spoilage of foodstuffs resulted in a directive being issued in the closing years of the war by the War Shipping Administration, requesting the reduction of box temperatures as follows:

Egg and cheese box (formerly dairy box): 30 to 31° F., never below 30°.

Vegetable box: 32 to 34° F.

Meat box: The temperature shall be set as low as possible (0° F. is recommended.) Under no circumstances shall the temperature be held above 10° F.

Fish box: The temperature shall be held as low as possible. (0° F. is recommended.) Under no circumstances shall the temperature be held over 10° F.

All post-war vessels now specify lower temperatures. The *S. S. Excalibur*, is provided with ships' stores compartments capable of maintaining 0°. A tabulation of the *Excalibur's* stores, spaces, and temperatures provided appears in the center of column 3 on this page.

Ships' stores plants are usually designed for direct expansion, "Freon-12." A few installations on passenger vessels have employed brine circulation when equipped with cargo refrigeration also using brine.

With very few exceptions, "Freon-12," motor driven, reciprocating compressors are employed, with shell and tube sea water condensers. The size of the refrigerating plants varies from 3 to 5 hp. for small vessels, to over 100 hp. for super-liners similar to those recently proposed for the U. S. Lines.

NECESSITY FOR 'STAND-BYS'

For the smaller plants one compressor is furnished, with complete stand-by as a spare. On the larger plants, it is usually desirable to furnish two or three compressors to carry the load and one additional compressor as a complete stand-by.

Where cargo refrigeration or air conditioning is included, it is sometimes possible to arrange the installation so that one compressor serves as a stand-by for all three plants.

Evaporators for ships' stores compartments fall into three categories:

1. Air coolers, usually of ceiling suspended type, for temperatures of 35° F. and above.
2. Prime surface coil for compartments maintained below 35° F.
3. Plate type evaporators.

It has not been until recently that plate type evaporators have been installed on shipboard. They are usually arranged so that the plates form shelving, which makes it particularly applicable for quick frozen food which is packed in uniform cartons.

Cargo refrigeration is more complex inasmuch as the ship owner requires an installation to provide sufficient flexibility to carry any type

Performance Comparison of Typical Reciprocating 'F-12' Compressor (Liquid Subcooled 10°)

Condensing Temperature °F.	+105	+105	+105	+105
Suction Temp. (Corresponding to Suction Pressure at Compressor, °F.)	+15	-5	-20	-35
Item				
Compression Ratio P2/p1	4.3	6.6	9.2	13.3
Refrigeration Effect B.t.u./Lb.	49.7	47.6	46	44
Cycle Efficiency, %	76	71	66	61
Coefficient of Performance	4.1	3.2	2.6	2.1
Over-all Volumetric Efficiency, %	75	65	52	35
Brake Horsepower per Ton	1.6	2.3	3.2	5.3

of perishable cargo and capable of maintaining any temperature from -10° F. to +55° F.

Except for the completely refrigerated ship, most refrigerated cargo vessels are provided with multiple compartments accessible through doors leading to the hatch and confined to 'tween deck spaces.

The compartments vary in number and size depending upon the requirements of the trade.

The high side equipment usually consists of multiple reciprocating "Freon-12" compressors. In the case of some of the more modern installations where the tonnage is sufficiently large, "Freon-11" centrifugal refrigerating machines are used.

The value of a single cargo often exceeds the cost of the entire refrigeration plant. Accordingly, regardless of the number of compressors required to carry the load, whether it be one or ten as the case may be, at least one compressor is provided for complete stand-by.

Electric motors are predominately

On the S. S. 'Excalibur'

Space	Gross Cu. Ft.	Temperature
Meat outbound	1,654	0° F.
Meat return	1,090	0° F.
Poultry	562	0° F.
Frozen food	540	0° F.
Fish	577	0° F.
Ice cream	435	0° F.
Butter & shortening	772	15° F.
Ice	175	20° F.
Eggs, cheese & milk	1,290	35° F.
Potatoes	1,070	35° F.
Fruit & vegetables	1,560	35° F.
Thaw	2,640	45° F.
Total Cu. Ft. (Gross)	12,365	

used with reciprocating compressors. Steam turbines have been applied to good advantage on centrifugal machines which are particularly adapted to this method of drive, since its operating speed varies from 4,000 to 8,000 r.p.m.

Until recently, "Freon-12" reciprocating compressors were driven through multiple v-belt drive. In present practice, compressors are designed to operate at 1,750 r.p.m., making direct connection to motors possible, thus resulting in a substantial decrease in space and weight.

TYPES OF LOW SIDES USED

In the case of cargo refrigeration, there are several types of low side equipment employed. Today, the most widely used design for the all purpose cargo vessel is known as the diffuser system. This consists of a fan coil assembly, either of the factory self-contained type or the built-up type. Extended surface cooling coils are commonly employed due to the savings in space and the reduction of refrigerant charge. Defrosting is most effectively accomplished by sea water spray for direct expansion systems and in the case of indirect systems, it is the usual practice to circulate warm brine through the coils.

In the diffuser system, the conditioned air is normally distributed through the sheet metal ducts, usually located around the periphery of the compartment and designed to blow either overhead, under gratings, or both, depending upon the nature of the cargo.

The outlet slots for overhead distribution are placed near the ceiling. Bottom slots are also provided near the bulkhead to allow the air to blow down along the wall between the cargo battens and flow across the deck under the floor gratings. With this method, the cargo is completely blanketed with a constant circulation of conditioned air.

A second method is known as the wall coil type. This consists of zig-zag or hair-pin prime surface coils installed along the walls of the com-

partment enclosed in a solid baffle running from deckhead to the floor gratings.

A sheet metal duct provided with bottom slots is run around the periphery of the walls above the cooling coils. A recirculating air blower forces the

air through the ductwork which is arranged so that the air discharges vertically downward over the prime surface coils where it is cooled and flows along the deck underneath the high floor wood gratings. The conditioned air then rises through the cargo at a relatively low velocity and is returned to the blower which is usually suspended from the deckhead or ceiling.

For direct-expansion systems, hot gas defrosting is normally employed. Where brine is used, warm brine is circulated through the coils when defrosting is required.

REFRIGERATING BANANAS

With banana cargo, a third type of system is preferable. This system is identical to the diffuser system except for the means of air distribution. A solid baffle or apron, as it is sometimes called, running from deck to deckhead, is constructed around the periphery of the compartment. Adjustable air outlets are provided both along the top and bottom of the apron which can be adjusted to suit the type of cargo being carried.

In this system, it is possible to distribute all of the air through the bottom outlets for under grating circulation, or through the top outlets for horizontal overhead distribution.

When bananas are carried, it is the usual practice to distribute all of the air underneath the floor gratings, permitting it to filter up at a low velocity through the bananas and back to the fan room through a high return opening located near the deckhead.

The homogeneous pre-cooled cargoes are usually carried at the same temperatures recommended for shore side storage. When it is necessary to carry mixed cargoes in the same compartment, a temperature must be determined which will be suitable for all of the perishables.

INFLUENCE OF QUICK FREEZING

The development of quick-frozen foods and the increase in its distribution has influenced the design of cargo refrigeration. Previously, refrigerated cargo compartments were designed for a minimum temperature of 0° F. Some shippers of quick-frozen foods require -10° F. to be maintained.

To obtain this -10° F. it is necessary to operate the compressor at suction temperature of approximately -25° F. for direct-expansion systems or -35° F. for indirect or brine systems. At a condensing temperature of 105° F., this results in a compression ratio of 10.4 and 13.3, respectively.

"Freon-12" reciprocating compressors not equipped with water jackets reach the limit of practicability at a compression ratio of about 12. At higher compression ratios, it is usually advisable and economical to use two compressors in series either by direct staging or by cascading.

A comparison of the performance of a typical reciprocating "Freon-12" compressor operating at various suction and condensing temperatures is presented in the large table which appears at the top of this page.

FACTORS IN EFFICIENCY

It is to be noted that the over-all volumetric efficiency falls off sharply as the compression ratio increases. It is also interesting to note that brake horsepower per ton is doubled when the suction temperature is reduced from +15° to -20° and is more than tripled when the suction temperature is reduced to -35°. It is, therefore, important to carefully select the maximum permissible temperature to be carried during the voyage.

Six American President Line C-3 cargo vessels, completed shortly after the end of World War II, are each equipped with two 4-stage "Freon-11" centrifugal refrigerating machines,

Freezing Fish at Sea Saves By-Products That Otherwise Would Be Lost

direct connected to 250-hp. turbines.

The refrigerated space is divided among 13 compartments, each equipped with a Carrier cold diffuser and capable of maintaining any temperature from -10° F. to +55° F. This installation has proven highly successful, particularly in the transportation of frozen foods at -10° F.

The Department of the Interior recently announced that a project to freeze fish at sea for later processing on shore is the first item on the technological research program of the Fish and Wildlife Services Branch of the Division of Commercial Fisheries for the fiscal year.

It was further stated that the preliminary tests, using new techniques, have been encouraging. It is proposed that the fish will be quick frozen in the round aboard the fishing vessel immediately after the catch. It is then proposed to defrost the fish on shore so that fillets can be cut, and then re-frozen and stored.

Valuable by-products, which are now mostly dumped overboard would be recovered on shore, to produce fish meal, vitamin oils, and other pharmaceutical products.

FREEZING ABOARD TRAWLER

The trawler, the *Deep Sea*, constructed as a factory ship to quick freeze, process, and package King crabs and fish at sea, has a capacity for 150 tons of frozen fish.

The vessel has 8,500 cu. ft. of refrigerated cargo space, which is designed to be held at 0° F. The quick freezing is accomplished in a blast-type freezer in which trays of fish are descended vertically at a predetermined speed so that, at the end of the travel of each tray, the freezing process is complete, air is circulated through the freezing tunnel at -45° F. The fish are filleted and packed in metal pans 48 x 12½ in., which contain approximately 36 lbs. of fish.

The waste, which represents from 55% to 75% of the catch in any filleting operation, is discharged overboard, releasing storage space for a larger cargo of frozen fish fillets. The operation includes the complete processing of the fish, including the final packaging so that, upon the return of the vessel to port, the cargo is ready for the market.

HOW SHRIMP ARE FROZEN

The *Arcturus*, constructed within the last year, is equipped with a refrigerating plant to process and quick freeze shrimp, immediately after the catch in the warm waters of the Gulf of Mexico. This trawler is designed to process 300 lbs. of shrimp per hour.

The shrimp are dumped from nets hauled over the side into the refrigerated deck boxes on the after and main decks which are held at about 34° F. They are then taken to the preparing tables where they are de-headed and cleaned and packed in 5-lb. cartons. These cartons are then stored in the ante room where they are chilled before they are placed in the freezer room which is located on the main deck, about midship.

Quick freezing is accomplished by means of a blast freezer in which the air is circulated over a series of trays in a specially constructed tunnel. After the quick-freezing operation, the shrimp are placed in insulated holds maintained at a temperature of 0° F., and capable of storing about 70 tons of packaged shrimp.

The equipment consists of a Carrier 7G8 compressor, driven by a 40-hp. electric motor through multiple V-belts, a marine shell and tube condenser, and a factory assembled marine-type, direct-expansion "Freon-12" 15Q cold diffuser, for the freezer room.

A second cold diffuser is located in the hold and is served by a 7H5 compressor, V-belt connected to a 7½-hp. electric motor. Another 7H5 compressor driven by a 5-hp. motor serves the ante room, which is equipped with a ceiling-suspended type cold diffuser. The defrosting of all cold diffuser units is accomplished by means of sea water spray.

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Philco Names Engineering Director for Appliance Division and 3 Others

PHILADELPHIA—Frank D. Peltier has been appointed director of engineering, appliance division of the engineering department, Philco Corp., and three chief engineers have been named to head principal appliance design groups, David B. Smith, vice president, research and engineering announced recently.



Peltier, an authority in the field of refrigeration engineering with many years of experience, has been with Philco since 1939 and has been responsible for development of the company's refrigerators, home freezers, and air conditioners. During the war he made a notable contribution to the engineering of ordnance.

Responsible for the design engineering of Philco refrigerators is Theodore W. Rundell as chief engineer. He joined the company nine years ago as a refrigerator cabinet engineer, did wartime work on fuses and radar, and has been assistant chief engineer handling development work on refrigerators for the past three years.

Matson C. Terry, who has had many years of experience in refrigeration and air conditioning engineering, is chief engineer in charge of developing single-room air conditioners. At one time associated with the War Production Board, he has headed design work on Philco air conditioners for the past five years.

New developments in the engineering of home freezers will be the responsibility of Edward L. Hart, named acting chief engineer. He has long experience in both designing and servicing of refrigeration appliances and has been with Philco for the past 10 years.

Washer & Ironer Assn. Meets At Mackinac Isle. July 14-16

CHICAGO—The American Washer & Ironer Manufacturers Association will hold its summer meeting this year at the Grand hotel, Mackinac Island, Mich., from July 14 to 16.

Electrical Convention in Minneapolis Feb. 27-Mar. 2 Will Feature Meetings on Appliance Promotion

MINNEAPOLIS—The 1949 Electrical Industry Convention has been scheduled for Feb. 27 through March 2 at Radisson hotel here. More than 1,500 persons are expected to attend the convention which is coordinated through North Central Electrical Industries and sponsored by a dozen trade groups including the Twin City Appliance Dealers Associations.

The four-day convention will feature meetings on electrical appliance promotion particularly to the rural areas and will include a discussion on how the industry can create a desire for new equipment on the electrified farm by the Rural Electric Equipment Council.

NCEI will hold an all-industry meeting on merchandising and sales promotion the final day which will include a demonstration by Carl Christine, manager of the St. Louis Board of Electrical Trade, and a

Dealer Has Customers Driven to the Store

WATERTOWN, N. Y.—Kamargo Furniture, 132 Court St., appliance dealer, attracts customers by offering them free taxi service from their homes to the store. Customers are invited to call a cab company which delivers them to the store.

Hotpoint's Cutaway Range Display



Edward R. Taylor, manager of market development for Hotpoint, Inc., is shown above pointing out features of the company's double oven pushbutton electric range on a cutaway model displayed at the recent furniture market in Chicago.

Maytag Sales Set Record; Profit Percentage Drops

NEWTON, Iowa.—Fred Maytag, II, president of the Maytag Co. recently reported that sales by his firm for 1948 were the largest in its history and totaled between \$65,000,000 and \$70,000,000.

He figured that profits would also exceed 1947 but would represent a smaller percentage of sales. Profits during the year 1947 amounted to \$7,101,579.

Maytag said that supply and demand for his company's products at present are in better balance than at any postwar date and that the washing machine plant is now operating on a normal 40-hour per week schedule.

short review and forecast on the electric appliance business by Albert McNamee of *McCall's* magazine.

A number of as yet to be selected speakers will be scheduled for various business and luncheon sessions, according to NCEI chairman R. F. Pulver.

Meetings will be held by participating organizations including the Appliance dealer groups, Minnesota Electrical Association, Minnesota Municipal Utility Association; Minnesota Electric Cooperative; Minnesota Electrical Inspectors Association, Minneapolis and St. Paul Electrical Contractors Associations; North and South Dakota Electrical Contractors Associations; North Central Electric Association; Electrical Manufacturers Club; North Central Electrical Wholesalers & Distributors, and the Twin City section of the Illuminating Engineering Society.

Denver Appliance Dealer Succeeds by Teaming Up with Merchandising Plumber, Instead of Competing with Him

DENVER—Instead of competing with "merchandising plumbers" who sell complete lines of major appliances, William Wright, head of Dependable Appliance Co. here, has "teamed up" with a plumbing and

heating concern to the mutual advantage of both.

Wright, a Philco dealer, went into appliance merchandising last February under an arrangement whereby he set up shop in the showroom of Dependable Plumbing & Heating Co., a long-established domestic and commercial installation plumbing firm.

The latter organization, which has a crew of 12 repairmen and installation plumbers, handles all delivery, installation, and service for Wright. It receives 15% of the net profit in return for the space.

"This idea has proven full of advantages," Wright explained. "By teaming up with a well-known plumber who had just built an attractive, new showroom, I saved myself the trouble of building up a patronage and reputation, as well as the cost of finding a good location. Most of my appliance customers have been served by the plumbing end of the business at some time or another and have a lot of confidence in it, which is easy to transfer to appliance selling."

Wright carries complete major appliance lines, with a 50-ft. gallery display on one side of the showroom made up of refrigerators, home freezers, and automatic laundry equipment. Ranges, conventional washers, radios, and other lines appear in a second showroom, with plumbing fixtures liberally mixed into both displays.

There are active displays of most

appliances ready for quick demonstration, and Dependable can furnish a complete model kitchen, readily installed with the excellent facilities maintained by the plumbing end of the organization.

The plan has worked out well from every standpoint, according to Wright.

"We have sold a lot of appliances to homeowners who came in originally to talk over bathroom modernization, new-home plumbing, heating repairs, or installation," he said. "Most of them were attracted merely by the name, and had no idea we carried these appliance lines."

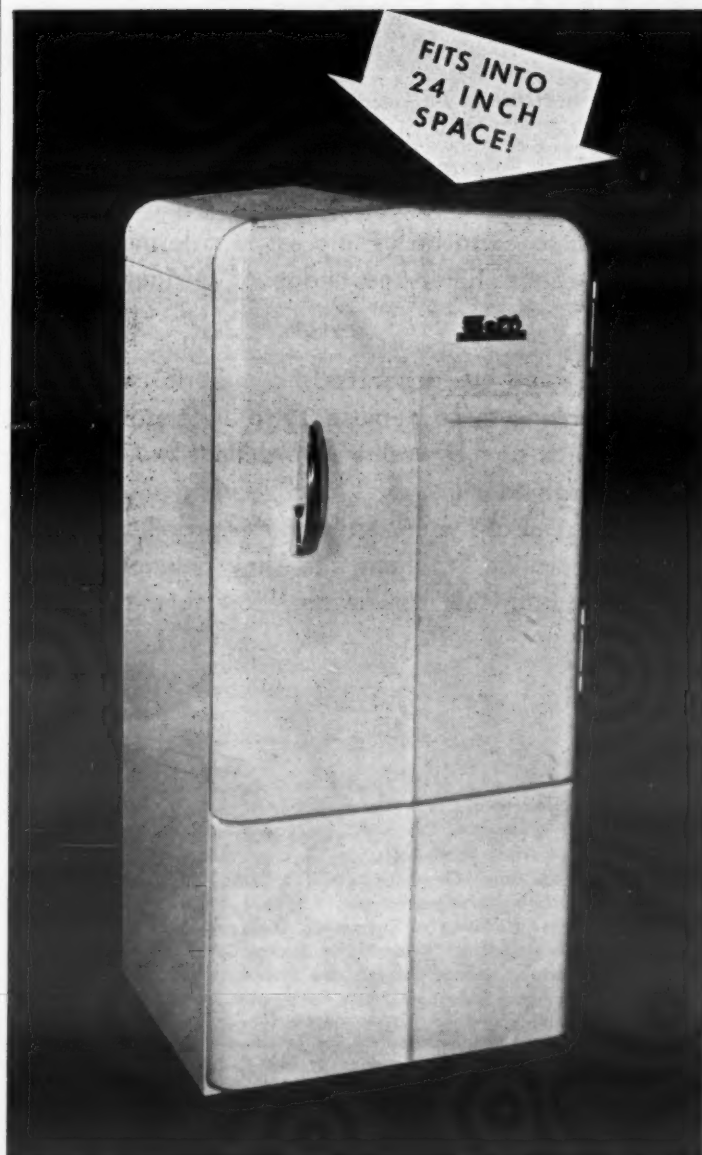
"Similarly, our appliance displays bring in many additional jobs for Dependable Plumbing. People who stop in to look over appliances wind up by installing new plumbing fixtures."

"Our plumbers can service or connect anything we sell, while I maintain the electrical repairs. Most customers today are worried about service, and being able to buy from an organization such as ours means a lot to them."

Wright's appliance advertisements are run as part of Dependable Plumbing's newspaper space. All calls on appliance subjects are turned over to him, to be followed up with outside calls.

Thus it has required only a few short months on this novel basis to make Dependable Appliance important in Denver retailing.

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Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Motor Trouble (4)

Although under-voltage, overload, and worn bearings account for the bulk of motor trouble, there are some other causes that lie within the motor itself. Some of these are so minor that they can be repaired on the job, for others it is advisable to change the motor and take the old one in to the shop.

STARTING SWITCH FOR SINGLE-PHASE MOTORS

Most single motors driving refrig-

erating compressors are the split-phase or capacitor-start types. Both of these require a switch to cut out the starting winding and, in the case of the capacitor-start motor, to also cut out the starting capacitor.

In the open-type motor this switch is usually operated by some weights attached to the shaft. These weights, and the springs that hold them, are so balanced that the motor shaft must get up to about two thirds full-load speed before there is enough centrifugal force to cause the weights to fly out and open the switch.

Dirt, lint, and other matter may cause the mechanism to stick open, or prevent good contact of the switch, and as a result, the motor will not start, for the starting winding will be out of the circuit and consequently there will be no starting torque. If this mechanism jams and fails to open, the motor will start and get up to speed but will heat excessively.

It is not practical to use a centrifugally operated switch on the motor shaft inside the case of a hermetic refrigerating unit, so some other method has to be used for disconnecting the starting winding and capacitor when the hermetic compressor-motor gets up to about two thirds of full-load speed. There are three main methods of doing this:

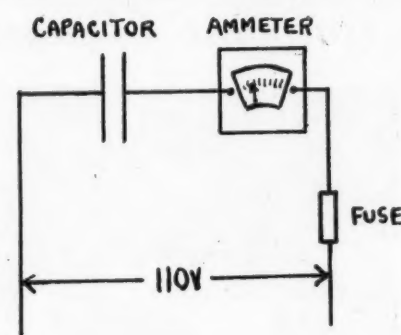


Fig. 1—Test hook-up.

1. A timing device. This is actuated in various manners, but one of the most popular is to cause the current to heat a resistance wire, and the heat so developed to cause a piece of bi-metal to bend and open the switch contacts. Dash-pots and other timing methods have been used.

2. Current relay. This is an electrical relay operating a normally-open switch that is placed in the circuit to the starting coil and capacitor. While the motor is coming up to speed, the current is above normal so the relay closes and holds the switch closed, and the starting coil and capacitor in the circuit. When the motor gets up to speed, the current becomes less, the relay then opens and cuts out the starting coil and capacitor.

A burned-out or shorted relay coil or dirty contacts will keep the starting coil and capacitor out of the circuit, so the motor does not have practically any starting torque.

3. Voltage relay. This is a normally-closed switch on an electric relay that is actuated by the induced voltage from the main coil while the motor is coming up to speed. When the motor is almost up to speed (about two thirds full-load speed or as may be predetermined) the induced voltage is not enough to hold the relay closed. It therefore opens the starting switch and takes the starting coil and capacitor out of use.

Dirty contacts of the relay will prevent the motor from starting, for they will keep the starting coil out of the circuit. A burned-out or shorted relay coil will keep the starting coil in all the time and cause the motor to heat excessively.

DEFECTIVE STARTING COIL

The starting coil of the motor may be burned out or shorted. In either case the motor will not start nor get up to speed. If the coil is burned out or there is an open circuit to it, the motor will simply not start; while if it is shorted the motor not only will not start, but will be noisy and become hot.

The motor will also fail to start if the main winding is open or shorted, and will otherwise act very much the same as if the starting winding is open or shorted.

Up until a very few years ago starting capacitors were the source of a great deal of trouble, but they have been somewhat improved in quality and are somewhat longer-lived and more dependable than heretofore. Nevertheless, they are still responsible for a considerable amount of trouble with capacitor-start induction-run motors.

They can be open or shorted, with the latter the more common. They are easily tested with an ammeter or a small test-light. To test, first remove both wires leading to the capacitor from main or starting coils,

relay, or other connection. Put full voltage across the capacitor with the ammeter or test-light and a 10-ampere fuse in series as in Fig. 1.

If the fuse blows, the capacitor is shorted. If the fuse does not blow, but the ammeter does not show any current and the light does not light, the capacitor is open.

If the fuse does not blow and the ammeter shows current flow, or the light light, the capacitor is OK but may not be the right capacity for that particular motor even though it was the right capacity for another motor of the same horsepower, voltage, and frequency.

The approximate capacity of the capacitor in microfarads is equal to the ammeter reading in amperes multiplied by 24 for a 110-volt, 60-cycle capacitor or by 12 for a 220-volt, 60-cycle capacitor.

OPEN CONNECTIONS

Loose connections may be the cause of the motor not starting; also blown fuses, overload protectors open; or the pressure control, thermostat, or high-pressure cut-out may be open.

If the motor gives no evidence of even trying to start, look for open switches, loose connections, etc., or for open starting relays or motor protectors.

If the motor seems to be trying to start, but is unable to get up to speed, you should suspect low-voltage, overload, defective capacitor, or an open or shorted starting coil.

CYCLING STARTS

Sometimes a motor will seem to start about as usual, although perhaps rather slowly; and then slow down again after the starting switch or relay opens and cuts out the starting winding and the capacitor, if it is a capacitor-start motor; or it may drop back on the brushes if it is a repulsion-induction motor. After this it will speed back up and again try to get up to full speed.

This is often caused by a heavy overload. Most motors will start and bring up to two-thirds speed a very much greater load than they can carry continuously or even bring up to full speed from two-thirds speed. Another cause of this is that the centrifugal switch, relay, or other starting switch may be set too low, so that the motor does not get up to a high enough speed before the switch opens and makes it necessary for the main winding to pick up the load and get it on up to full speed.

The speed at which the starting winding and capacitor, if any, are cut out, is different for different types and makes of motors, but as a general rule is about two thirds of full-load speed. Thus, for a motor whose full-load speed is about 1,750 the speed at which the starting winding will be taken out of the circuit, is about 1,150 to 1,200 r.p.m.

Los Angeles Contractor Group Elects Ralph Manns President

LOS ANGELES—At its first meeting in 1949 the newly elected board of directors of the Refrigeration Contractors Association of Los Angeles elected Ralph E. Manns of Wilmington, Calif., to the presidency of the organization for the year.

Other officers elected were Hal Crumly of Pomona, vice president, and Ralph M. Westcott of Los Angeles, secretary-treasurer. Neal S. Templin will remain executive secretary.

The other directors elected for 1949 are Stewart Archibald, Robert N. Gay, Charles E. Hollingworth, L. P. Jacobsen, and Dale J. Missimer, all of Los Angeles, and Haskell Neel of Long Beach.

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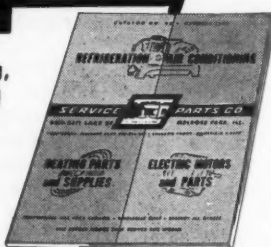
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Philco Refrigerators, Freezers Feature Compactness



Philco Showing--

(Concluded from Page 1, Column 5)

lid which stays open and closes gently and automatically when lowered below a 30° angle; a battery operated guardian bell to warn of electrical or mechanical failure and a hermetically sealed power system.

The Model DH-81 also contains a built-in thermometer and a separate center compartment for sharp freezing at temperatures as low as -15°.

An upright 7.5-cu. ft. freezer (Model AV-75) will retail at \$330 in zone 1. It has all the deluxe features of the DH-81 plus patented sloping shelves and a built-in lock.

Larger uprights offered for the first time include a 15-cu. ft. box (model DV-151) with a price of \$449.50 in zone 1, and model DV-301 (30 cu. ft.) at \$779.50. Shelves of these large upright models are plate coils in themselves.

They are non-corrosive aluminum and are of surplus strength construction to hold full loads without sagging. Welded steel bottom grids keep food packages suspended above the bottom of the compartment to permit free circulation of cold air below and keep foods properly frozen.

"We are preparing to take over the home freezer business," W. Paul Jones, vice president of Philco refrigeration division, in announcing these freezer models. "We expect to do as large a volume—both in units and dollars—on freezers in 1949 as we did on refrigerators in 1946. This is a great, growing, and glamorous market."

Low-priced model in the new refrigerator line (model 793) is a 7-cu. ft. job scheduled to retail for \$229.50. Here again, with the use of a horizontal evaporator and new insulation, space has been saved. This refrigerator occupies the same floor area as the former 4-cu. ft. refrigerator, it was stated.

Outstanding feature of this model is the inclusion of a full-width frozen food compartment. Philco claims that this is the first time such a compartment has been offered in the lowest price model of any line. The compartment contains space for ice trays and is enclosed by a one-piece aluminum door.

Among the other deluxe features are a full-width cold storage tray

ABOVE LEFT: Model 1095 features a "snack box."

ABOVE RIGHT: Model 794 crowds 7.2 cu. ft. of refrigerated space into what normally would have permitted only a 4-cu. ft. refrigerator.

RIGHT: Freezer Model DH-81 has an 8-cu. ft. capacity, holding up to 320 lbs. of frozen foods.



directly beneath the freezing compartment and a glass covered crisper drawer. The unit has 14 sq. ft. of shelf space.

Model 794, with a rear-mounted flat condenser, four easy-out ice trays, complete shelf adjustability, two glass covered crispers, and a sliding drawer storage bin at the bottom has a price tag of \$249.50.

Eight-cu. ft. refrigerators include models 892, at \$299.50; 893 at \$329.50; and 897 (which has a glass Conservador) at \$399.50. All these quotations are for zone 1.

Models 892 and 893 were first introduced last November to catch the pre-Christmas trade. The model 897 is being shown for the first time.

A built-in home freezer, complete shelf adjustability, the cold shelf, balanced humidity with patented Summer-Winter control and unrefrigerated storage bin are among the other deluxe features of the Model 897.

Next comes a 9.5-cu. ft. refrigerator (Model 991) at \$289.50. More than 17 sq. ft. of shelf area is contained in the 9.3 cu. ft. of storage capacity. An oversize freezer locker, complete shelf adjustability, unrefrigerated storage bin, covered meat storage drawer, and crisper drawer are among the deluxe appointments.

The 10-cu. ft. and 11-cu. ft. models

feature a full-length door. They are said to be little larger in exterior dimensions than former 8-cu. ft. models. Model 1093 sells for \$359.50; and model 1095 is ticketed at \$399.50. Both have 10.7-cu. ft. capacities. Model 1191 (11.4 cu. ft.) has fewer "extras" and hence achieves a price of \$329.50.

Among the "extras" in the full-door models are a deep "freshener" drawer, and a unique "snack box" with a hinged lid.

The Freshener Locker is a high humidity, sliding refrigerated locker, with almost a full bushel capacity, suitable for the storage of all kinds of foods, in large quantities or bulky sizes and shapes. The locker can be removed if desired to provide a large refrigerated space for such space-taking items as a ham, a turkey, or a watermelon.

The "snack box" lifts out as a unit, and is designed to prevent cheeses from "smelling up" the interior, or to keep butter at a spreading consistency.

The model 1095 features a built-in home freezer said to be separated from the food storage areas by an exclusive, patented means, a separate fast freezing shelf for ice trays, a Summer-Winter control to control humidity in all seasons and climates.

The model 1093 contains most of the features of the 1095 including the built-in home freezer, the Summer-Winter control, completely adjustable shelves, and the snack box.

The model 1191 also features the new snack box, a giant freshener, completely adjustable shelves and a zero-zone freezer locker. The 11.4-cu. ft. storage capacity in an 8-ft. cabinet offers 19.2 sq. ft. of shelf area.

When introducing the room air conditioner line, Walter Eichelberger claimed that Philco had done 45% of the nation's room air conditioner business in 1948, and was out to get a much larger volume in 1949. Included in this line:

Model 61-D, a ½-hp. window unit at \$349.50.

Model 76-C, a ¾-ton unit (7,750 B.t.u.) at \$399.50.

Model 91-CE, a ¾-ton sealed-unit (9,000 B.t.u.) floor-type console with a five-year guarantee at \$659.50.

Distributor Offers To Pay Freight on Returned Items Where Factory Does Not

DETROIT—A statement of policy by The Kennedy Corp., distributor here of appliances, commercial refrigerators, and other products, declares that it will pay the freight to and from the factory on merchandise found defective within the warranty period in such cases where it is not assumed by the manufacturer.

This statement of policy, which is being sent to all of the Kennedy retail accounts throughout the United States, was made necessary because so many of the distributor's retail accounts were being inconvenienced, embarrassed, and angered by the matter of freight charges on returned merchandise that was defective, declares Charles R. Kennedy, Jr., head of the firm.

Manufacturers have a "moral" responsibility at the least to pay freight charges on returns of defective merchandise, particularly where a specific charge or service reserve has been established, Kennedy declares. In any event, he sees no reason why the dealer should stand the charges when the fault is not his.

The statement by the distributor is as follows:

"This company does not feel that its customers should be penalized by a manufacturer to the extent that

its customers are forced to pay transportation charges both ways on a defective unit that is to be repaired or replaced by a manufacturer under the manufacturer's warranty.

"This company maintains that it is not the dealer's fault if a unit is proved to be defective upon receipt from the factory, and it feels that the manufacturer should stand behind the products that they fabricate to the extent that it will immediately replace or repair, free of charge, including freight both ways, any defective unit which is shipped to its customers throughout the United States.

"Because it has been the common practice of manufacturers to force this company's customers to pay freight both ways on defective units, and to the knowledge of this company make that an implied condition on which any unit will be repaired or replaced, this company announces that any defective units or merchandise that its customers receive by virtue of this company's recommendation will be instantly replaced, if proved to be defective and cannot be serviced in the field, without cost to its customers in any manner, shape, or form, including freight both ways."

'50 Mart Dates To Pull Away from Holidays

CHICAGO—Next year, it seems, the dates for the Homefurnishings Markets will definitely pull away from the New Year's Day and Fourth of July holidays.

The board of governors of the American Furniture Mart last week announced that dates for the Marts through 1952 had been set and confirmed.

This year's (1949) summer Mart will follow hard on the heels of the Fourth of July holiday, however, starting July 5 and continuing through July 16.

In 1950 the winter market will be held from Jan. 9-19, and the summer market from June 19-29. In 1951 the Winter market dates are Jan. 8-19, and the summer market June 18-28.

Firm Adds Freezer, Cold Rooms

BUFFALO—The Flickinger Co. has added large modern freezer and cold storage rooms to its facilities in the Niagara Frontier Food Terminal.

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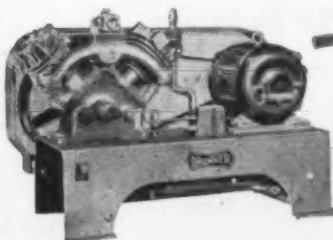
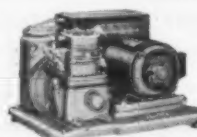
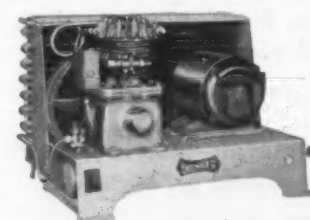


Even with a sound knowledge of refrigeration principles and a broad installation experience, refrigeration men rarely find the answers on any two jobs to be alike. That is why we have included a great deal of helpful, time-saving application data in this new Brunner catalog. Several pages of "cross section" illustrations help in showing customers exactly why you recommend a certain size and type of condensing unit.

Equally important are 22 pages of illustrations and capacity data on all the Brunner air and water cooled refrigeration condensing units.

BRUNNER
MANUFACTURING CO.
Utica 1, New York, U.S.A.

To responsible refrigeration men, this data will prove valuable. A note on your letterhead will bring a copy by return mail. No charge.



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¼ HP. TO 30 HP.

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Our big expansion program offers unusual opportunities for three well-seasoned engineers who have sound backgrounds of accomplishment in refrigeration and other household appliances and are desirous of being in a spot where their experience and abilities can be utilized to the maximum.

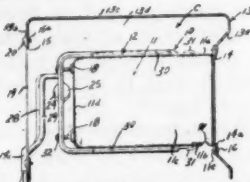
- (1) CABINET ENGINEER ON MAJOR APPLIANCES
- (2) REFRIGERATION DEVELOPMENT AND TEST ENGINEER
- (3) ELECTRICAL ENGINEER ON REFRIGERATION

Please give complete details on your experience, background and previous connections, together with salary requirements in your first letter. A recent photo will be helpful. Apply by letter only—Please do not phone. All information strictly confidential. Address your letter to Chief Engineer, The Coolerator Company, Duluth 1, Minn.

PATENTS

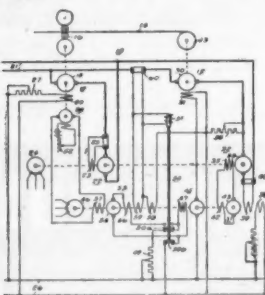
Week of October 19
(Continued)

2,451,744. REFRIGERATOR LINER EVAPORATOR. Bernard C. Johnson, Mundelein, Ill., assignor to Houdaille-Hershey Corp., Detroit, Mich., a corporation of Michigan. Application June 10, 1946, Serial No. 675,582. 6 Claims. (Cl. 62-126.)



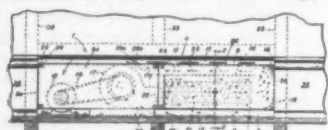
1. In combination, a cabinet having front and rear walls with openings bounded by marginal flanges, a canister type liner in said cabinet having an open front with an outturned mounting flange therearound mating with the marginal flange around the opening in the front wall of the cabinet, means securing the mounting flange of the liner with said marginal flange around the opening in the front wall of the cabinet, a heat exchange unit insertable through the opening in the rear wall of the cabinet in telescoped snug engagement on said liner, tubes secured to said unit for circulating fluid therethrough, and an embossed removable cover overlying the marginal flange on the rear wall of the cabinet for closing the opening in said rear wall and receiving said tubes through the embossed portion thereof.

2,451,901. CONTROL SYSTEM FOR REEL MOTORS. Basil J. Auburn, Pittsburgh, Pa., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application July 13, 1946, Serial No. 683,315. 9 Claims. (Cl. 318-6.)



9. In a control system for a reel for strip material worked upon by roll means driven by a roll motor; a reel motor having a driving connection with the reel and having an armature and a field winding, means connecting the armature of the reel motor to the same source of electrical energy as the roll motor including a booster generator responsive to the armature current of the reel motor to maintain said current at a pre-determined value; a regulating generator having a pattern field winding energized in accordance with the speed of the roll motor, a differential field winding energized in accordance with the counter-electromotive force of the reel motor armature operable to develop a control voltage, a compensating cumulative field winding energized in accordance with the armature current of the reel motor and a self-energized series field winding arranged to maintain the output under balanced conditions; means including a control generator having a field winding and an armature connected in circuit relation with the field winding of the reel motor for effecting energization thereof; and means selectively connecting the field winding of the control generator to the source of substantially constant voltage for providing a minimum value of field excitation or to the regulating generator variably controlling the field excitation.

2,451,926. ELECTRIC AIR HEATER. Milton H. Dallin, Salt Lake City, Utah.

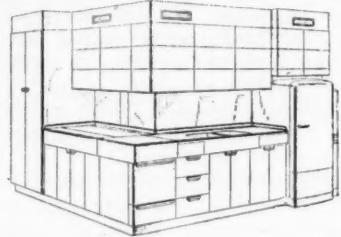


Application Jan. 30, 1946, Serial No. 644,268. 11 Claims. (Cl. 219-39.)

1. An electric heater comprising an elongated casing, a partition dividing said casing longitudinally into upper and lower ducts, an electric heater element disposed in said lower duct, a motor-driven blower, said blower having its outlet in communication with one end of said lower duct, means defining a passageway between said lower and upper ducts at the other end of said lower duct to reverse the direction of air flow upon reaching said upper duct, and outlet means disposed along an exterior wall of said upper duct for discharging warmed air.

DESIGNS

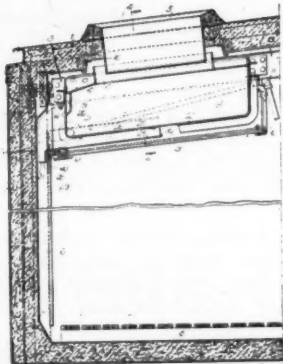
151,455. DESIGN FOR A COMBINATION KITCHEN AND LAUNDRY UNIT. Leonard Keller, Tuckahoe, N. Y., assignor to Borg-Warner Corp., Chicago, Ill., a corporation of Illinois. Application Feb. 25, 1947, Serial No. 137,162. Term of patent 14 years. (Cl. D33-19.)



The ornamental design for a combination kitchen and laundry unit, substantially as shown.

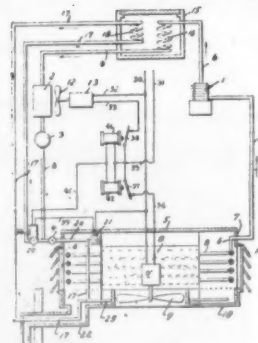
Week of October 26

2,452,101. DRIP PAN HINGE FOR REFRIGERATOR CARS. Edward S. Cisco, Highland, Ind., assignor to Standard Railway Equipment Mfg. Co., Chicago, Ill., a corporation of Delaware. Application Aug. 1, 1946, Serial No. 687,723. 9 Claims. (Cl. 62-17.)



1. In a refrigerator car having a roof, hinge means for hinging a partition to a car wall under a refrigerator container positioned and in close proximity to adjacent said roof and wall; said hinge means comprising a hinge bracket secured to said wall and hinge links pivotally supported at one end by said bracket and pivotally attached at their other ends to said partition, the location of the pivotal attachments of said links being such that as said partition pivots downwardly it swings inwardly so that the outer edge of the partition is always maintained within the limited space between said partition and container.

2,452,102. REFRIGERATING SYSTEM

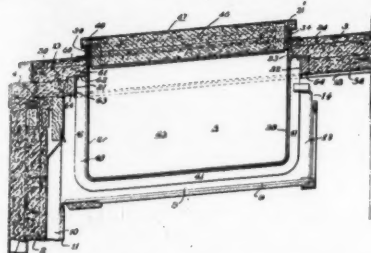


DEFOSTED BY HOT LIQUID RE-

FRIGERANTS. John B. Cocanour, San Jose, Calif., assignor to Colvin-Templeton, Inc., Oakland, Calif., a corporation of California. Application Nov. 6, 1944, Serial No. 562,189. 29 Claims. (Cl. 62-2.)

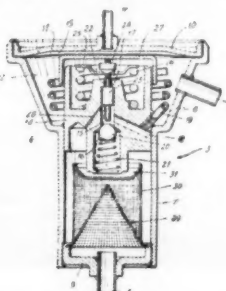
1. A cooling system comprising a conduit, a compressor, a condenser, a receiver, an expansion valve and an evaporator connected into the conduit in series for passing a refrigerant therethrough, a by-pass for the expansion valve having means for heating the refrigerant therein, and control means for the by-pass whereby the latter is opened in response to a predetermined drop in temperature in the evaporator for defrosting the latter.

2,452,164. REFRIGERANT CONTAINER CONSTRUCTION FOR RAILWAY REFRIGERATOR CARS. Alfred L. Thompson, Munster, Ind., assignor to Standard Railway Equipment Mfg. Co., Chicago, Ill., a corporation of Delaware. Application Nov. 13, 1946, Serial No. 709,619. 13 Claims. (Cl. 62-17.)



1. A refrigerant container for use in a railway car having spaced carlines and spaced purlins secured together to form a frame and roof sheets supported by said frame; said container comprising vertical side walls and vertical end walls and a bottom, the distances over the side walls and end walls, respectively, of the container being substantially the same as the distances between the purlins and carlines, respectively, of the frame, and a reinforcing member straddling and secured to the upper margin of said walls and having lateral flange overlapping the margin of said roof sheets supported by said frame, whereby the container may be installed in or removed from the car through the frame from the exterior of the car without disturbing the frame or roof sheets.

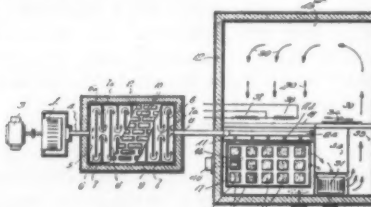
2,452,441. REGULATOR VALVE HAVING A CAPILLARY TUBE EXPANSION PASSAGE. John F. Dube, Clayton, Mo., assignor to Alco Valve Co., University City, Mo., a corporation of Missouri. Application June 17, 1944, Serial No. 540,817. 10 Claims. (Cl. 62-137.)



2. In a regulating device for a fluid conducting conduit, a valve for the conduit, a capillary tube connected to the outlet side of the valve and through which the fluid flowing through the conduit must pass, a restricted passage for bypassing fluid around the valve when the same is closed, a pressure controlled member for controlling the opening and closing of the valve, said member being subject on one side to the pressure of the fluid in the conduit beyond the capillary tube, and means for subjecting the opposite side of the member to pressure from a pressure producing means controlled by temperature changes.

Week of November 2

2,452,594. METHOD OF REFRIGERATION EMPLOYING DRY ICE. Nathan Morris, Silver Spring, Md., assignor, by mesne assignments, to American Instrument Co., Inc., a corporation of Maryland. Application May 5, 1944, Serial No. 534,314. 8 Claims. (Cl. 62-170.)



1. The method of effecting refrigeration with solidified CO₂ at sub-zero temperatures which comprises dehydrating air, precooled the dehydrated air and blowing the precooled dehydrated air over the surface of solidified CO₂ in a confined temperature controlled area at a velocity sufficient to maintain the solidified CO₂ free from the collection of gas over the surface area thereof.

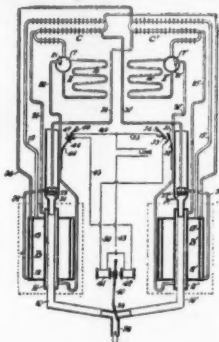
2,452,612. RELIEF VALVE ASSEMBLY FOR VENTILATION SYSTEM. Walter A. Swenberg, Long Beach, Calif. Application March 26, 1945, Serial No. 584,993. 3 Claims. (Cl. 277-61.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)



1. In combination, a ventilating duct open at one end to the atmosphere containing a bend, a pressure relief valve in the wall of said duct at the bend thereof comprising a seat ring, a resilient gasket on said seat ring, studs protruding from said seat ring, a valve plate mov-

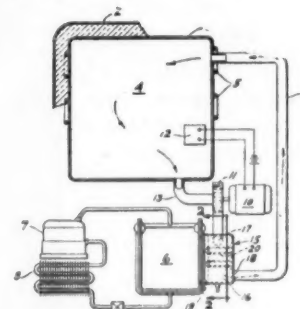
ably engaged with said studs, yieldable means normally holding said valve plate against said gasket, an equalizer valve situated in the wall of a portion of the duct approaching the bend comprising a seat ring, a resilient gasket on said seat ring, a valve plate, studs protruding from the valve plate through said gasket seat ring and wall of the duct, and yieldable means normally holding the valve plate against the gasket.

2,452,635. ABSORPTION REFRIGERATING SYSTEM. Curtis C. Coons, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Sept. 27, 1943, Serial No. 503,866. 14 Claims. (Cl. 62-5.)



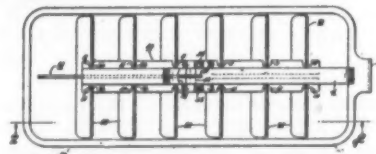
1. That method of producing refrigeration utilizing absorber-generators operating alternately on the absorbing and generating phases, which includes the steps of quickly cooling the absorber-generators at the ends of their generating phases with refrigerant evolved from the generator-absorbers to be cooled and subsequently continuing cooling of the absorber-generator operating on the absorbing phase with refrigerant evolved in the associated absorber-generator.

2,452,685. HUMIDITY CONTROL APPARATUS. William Rudy, Philadelphia, Pa., assignor, by mesne assignments, to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application June 4, 1945, Serial No. 597,546. 9 Claims. (Cl. 62-6.)



1. In refrigeration apparatus including a plurality of refrigerated zones one of which comprises a compartment adapted to be maintained at a condition of high relative humidity, cooling means effective to maintain said compartment at a non-freezing temperature, cooling means adapted to operate at a temperature below that prevailing in said compartment and effective to cool another of said zones to a temperature below the freezing point of water, a freezable liquid in heat exchange relation with said last-mentioned cooling means, said liquid having a fusion temperature in the region of 32° F. and a relatively high latent heat of fusion, said liquid normally being maintained in a frozen condition by the action of the cooling means and presenting a substantial and stable thermal mass when raised to the fusion temperature, and means for effecting circulation of air from said compartment in heat exchange relation with said frozen liquid, whereby to condense moisture from the air at a stable temperature in the region of the freezing point of water and without effecting substantial increase in the temperature of said last-mentioned cooling means.

2,452,686. ICE TRAY. Frederick W. Sampson, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application April 24, 1946, Serial No. 664,557. 4 Claims. (Cl. 62-108.5.)

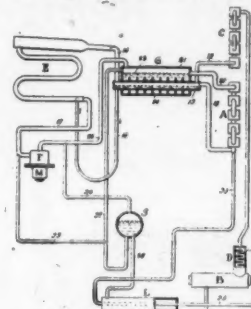


1. A partitioning grid for a freezing tray, comprising a main longitudinal wall having an upstanding bearing projection on its upper edge, a series of cross walls loosely mounted upon said main wall so as to be tiltable longitudinally thereof, said cross walls having aligned open notches cut thru their upper edges, a longitudinally movable actuating bar for tilting said cross walls, said bar lying within said aligned notches and having a hole therein thru which said upstanding bearing projection extends, a hand lever having a forked end pivotally mounted upon said upstanding projection and having laterally extending opposed eccentric lugs on said forked end, said actuating bar having integral open-top sockets within which said eccentric lugs project laterally for moving said actuating bar horizontally upon swinging said hand lever about its pivot mounting, said hand lever being insertable to its assembled position upon the grid after said actuating bar and cross walls have been fully assembled upon said main wall.

2,452,689. REFRIGERATION. Otis B. Sutton, Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application Feb. 18, 1944, Serial No. 523,858. 9 Claims. (Cl. 62-119.5.)

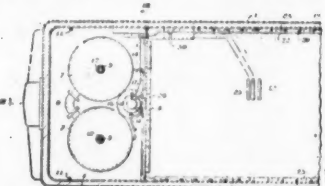
1. In an absorption refrigerating apparatus of the inert gas type embodying an evaporator, an absorber and a condenser; means constructed and arranged to provide mutual heat transfer between lean solution enroute to the absorber,

liquid refrigerant enroute to the evaporator and inert gas flowing into and away from the evaporator.



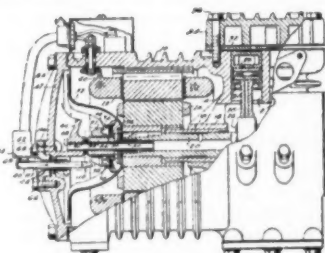
tor and inert gas flowing into and away from the evaporator.

2,452,711. REFRIGERATING APPARATUS. David Aronson, Greensburg, Pa., assignor to Elliott Co., Jeannette, Pa., a corporation of Pennsylvania. Application May 14, 1947, Serial No. 748,079. 6 Claims. (Cl. 257-3.)



1. Refrigerating apparatus comprising spaced upwardly extending evaporator tubes for receiving at their lower ends a highly volatile liquid and having an internal diameter sufficiently small to cause vapor resulting from the evaporation of liquid therein to carry upward unevaporated liquid, a conduit for withdrawing vapor from the upper ends of the tubes, a condenser for receiving vapor from the conduit, a vaporizer located within but spaced from the bottom of the condenser and adapted to receive a liquid refrigerant having a very low boiling point, whereby the vapor in the condenser will be condensed to a liquid that collects in the bottom of the condenser without being subcooled by the refrigerant, and a conduit for conducting the liquid from the condenser to the lower ends of the evaporator tubes.

2,452,907. SEALED REFRIGERATION UNIT. Harry E. Thompson, Sidney, Ohio. Application May 19, 1945. 8 Claims. (Cl. 230-58.)



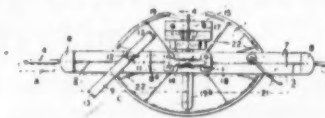
1. In a motor-compressor unit of the class wherein a motor and a compressor are sealed within a housing and are provided with a common operating shaft, the motor being of a type provided with a starting winding, the combination with said motor of centrifugally actuated mechanism driven thereby including a member movable axially of said shaft, a switch mounted upon the outside of said housing and connected in the series with said starting winding, a member projecting through an opening in a wall of said housing and mounted for pivotal movement about an axis extending transversely thereof, the outer end of the second-mentioned member lying in operative relation with respect to said switch and the inner end of said second-mentioned member lying in cooperative relationship with respect to said axially movable member, and means sealed to said housing and to said second-mentioned member sealing said opening against the flow of fluid therethrough between the interior and exterior of said housing, the relationship of said parts being such that when said centrifugally actuated mechanism is inactive said switch is in closed position and when said centrifugally actuated mechanism is active and said motor reaches a predetermined speed, said switch is open.

2,452,946. ICE CUBE TRAY. Charles A. Flynn, Phoenix, Va. Application Oct. 12, 1945, Serial No. 631,873. 1 Claim. (Cl. 62-108.5.)



An ice cube tray including a substantially vertical wall having an aperture therein to limit the level of the contained liquid, and a door pivoted to the wall on an axis at right angles thereto for closing the opening.

2,452,950. WINDOW FAN. Hackley Morrison, Houston, Tex., assignor to Texfan Co., Houston, Tex., a copartnership. Application Feb. 6, 1947, Serial No. 726,337. 12 Claims. (Cl. 89-94.)



1. A window fan comprising a base member of substantial width adapted to rest on a window sill, a panel structure carried by and extending vertically above said base member and having a central opening, a motor driven fan, means mounting said fan directly on said base member in a position to force air through said opening, the end portions of said panel structure having flat faces on both sides constructed to overlap and engage the window frame, whereby said base member and panel structure as a whole is reversible with respect to the window opening, and the fan may be caused to blow air either in or out, as desired, and sash engaging means for holding the panel structure in position.

(To Be Continued)

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1-24-49

Alabama Distributor Schedules Series Of Dealer Meetings

BIRMINGHAM, Ala.—A series of large dealer meetings and sales promotion rallies for radio and appliance dealers all over Alabama and northwest Florida will be held by R. P. McDavid & Co. here beginning Jan. 27, 1949, R. P. McDavid, III, vice president, has announced.

Three feature meetings will highlight the series, opening on Jan. 27 at the Thomas Jefferson hotel in Birmingham, followed by similar gatherings at the Whitley hotel in Montgomery on Feb. 1, and at the Admiral Semmes in Mobile on Feb. 3.

Each of these feature meetings will consist of an afternoon "open-house" display session, an evening cocktail hour, banquet, presentation of new lines and variety entertainment.

The purpose of these dealer meetings is to show new models of Coolerator refrigerators, ABC washers, ironers, L & H electric ranges, and other appliances distributed by R. P. McDavid & Co.

R. P. McDavid, president of the 18-year-old wholesale firm, will preside. Participating in the program will be E. D. Eades of RCA-Victor, Hap Vaughn of Coolerator, B. O. McElroy of Altorfer Bros. Co., Clyde Birmingham of A. J. Lindemann & Hoverson Co., and J. W. Whatley and R. P. McDavid, III, vice presidents of the McDavid organization.

More than five hundred dealer representatives from the northern section of the state are expected to attend the Birmingham assembly while the Montgomery and Mobile sessions should bring the total attendance to more than one thousand persons.

Having just completed a \$3,000,000 year, R. P. McDavid & Co. intends to concentrate its efforts toward increasing volume in 1949. As part of its promotional program, the company is inaugurating the "McDavid sales clinic," a weekly meeting to be held each Thursday evening from 6 to 7 p.m. with all dealer representatives invited to attend and pick up new sales pointers on the lines distributed by this company.

Alhambra, Calif. Firm Sold

ALHAMBRA, Calif.—The Valley Refrigeration Service, at 1409 South Monterey St. here, was sold by William F. Gradoville to Lawrence Harrison and Georgia Wooden.

A. J. Redpath Gets G-E Post; R. A. King Retires

ERIE, Pa.—Appointment of A. J. Redpath, assistant to the manager of engineering of the household refrigerator division, as division engineer of the refrigerator division, was announced at Erie Works, General Electric Co.

R. A. King, for more than 37 years a member of General Electric and division engineer of the refrigerator cabinet engineering division, retired on Jan. 1, 1949, under the company's pension plan.

Instalment Sale Credit Outstanding Up In Nov.

WASHINGTON, D. C.—Instalment sale credit on articles other than automobiles outstanding at the end of November was \$33,000,000 higher than in October and \$506,000,000 higher than in November, 1947, the Federal Reserve Board has reported. It totaled \$1,957,000,000 for the month.

Total instalment sale credit moved up \$80,000,000 over October while total instalment credit (also including instalment loan credit) was up \$100,000,000. Total instalment credit outstanding at the end of November amounted to \$7,917,000,000.

Charge accounts also rose by \$100,000,000 during the month to reach a total of \$3,557,000,000. This type of credit is \$249,000,000 higher than in November of 1947, the report stated.

International Detrola

Nets \$1,710,083 In '48

NEW YORK CITY—Net profit of \$1,710,083.68 for International Detrola Corp. and subsidiaries for the fiscal year ended Oct. 31, 1948 has been announced by C. Russell Feldmann, president, who said the figure was 24% more than in 1947 and also the largest net profit in the company's history.

Sales for 1948 were \$69,314,488.70, compared to \$71,682,179.65 in 1947. Steel mill sales increased from a proportion of 35% to 47% of the company's total volume of business.

A construction program started in 1948 to expand the company's steel mill facilities and raise its rated capacity from 413,100 tons of ingots per year to 780,000 tons is scheduled for completion the early part of this year.

Kansas City Electrical Exposition Mar. 2-6

KANSAS CITY, Mo.—The Exposition of Electrical Progress, an activity in cooperation with the Electrical Association of Kansas City, will be staged in the municipal auditorium here from March 2 to 6, the exposition committee has recently announced.

The exposition, which is intended to place before the public exhibits of every medium of electrical power in common use, has already attracted 16 local and national electrical companies as exhibitors, Joe Vancil, managing director of the exposition, has reported.

Vancil said that Admiral Corp., Westinghouse Electric Corp., General Electric Co., Graybar Electric Co., and Ironrite Ironer Co. are among those who intend to display their lines of new appliances at the exposition.

The event has the support of the local chamber of commerce, the Merchant's Association of Kansas City, and the Industrial Council of Kansas City.

1948 Washer Sales Top 4 Million Mark

CHICAGO—Factory sales of standard size household washers exceeded the 4,000,000 unit volume for the first time in 1948, the American Washer and Ironer Manufacturers Association announced recently.

In fact, sales for 11 months totaled 4,133,483 units and were 20% ahead of the same period in 1947. Sales for the full year 1947 were reported as 3,783,632.

For the month of November, however, washer sales totalling 319,300 units, were 16% below October and 12% below November, 1947.

Ironer sales for the 11 months were 450,860, down 14.7% from the same period last year. For November, sales totalled 42,000, about 28% under November, 1947 and 9% over October, 1948.

Syracuse Dealer Buys Building

SYRACUSE, N. Y.—The Besdin Furniture Co., appliance dealer, has purchased the Schoeneck building at 117 E. Willow St., adjoining the Besdin store.

Robert H. Besdin, treasurer of the firm, said the structure would be remodeled extensively in a program to expand appliance sales.

Use of No. 35 Brazing Alloy on Stainless Steel Evaporators To Insure Proper Results Explained by Norge Engineer

WASHINGTON, D. C.—Experience in the use of No. 35 brazing alloy on stainless steel evaporators was discussed by J. C. Scharmer of Norge Div., Borg-Warner Corp., who described some of the steps that had to be taken to insure proper results.

Composition of the No. 35 silver brazing alloy as analyzed by Norge engineers was found to contain 35.14% silver, 23.47% copper, 21.06% cadmium, 20% zinc, and the balance undetermined. Melting point is 1,125° F. with a flow point of 1,295° F., and the melt range is 170° F. The No. 35 brazing alloy was introduced in Norge operations in June, 1947, as an economy move and to eliminate the difficulty with cracks at the stainless steel joints on the evaporator, which the plant was experiencing.

However, when the alloy was first used, there was considerable cracking at the distributor tube joint and some cracking at the cross tube joint. With the cooperation of the stainless steel sources and the brazing alloy sources, the Norge engineering de-

partment redesigned the entire evaporator to eliminate tubes entering a stressed area of the stainless steel evaporator.

The final evaporator design was such that the distributor tube and suction outlet tube came directly from an unstressed area in a flat section on the stainless steel stamping. This eliminated leaks at these joints, and permitted the reduction of the quantity of silver brazing alloy from two to one brazing ring at these joints.

In using the No. 35 silver brazing alloy, Scharmer said, it is necessary to observe the six fundamental steps for a good brazing job:

1. A good fit and proper clearance engineered into the parts.
2. The metal must be properly cleaned.
3. The metal must be properly fluxed.
4. Parts must be properly supported during the brazing operation.
5. Proper heating and flowing of the alloy must be observed.
6. Final cleaning of the joints must be correctly done.

Scharmer related that in present Norge production practice a torch fired with propane gas and oxygen is used in the brazing operations. In making the joints on the evaporator a stream of propane is flowed through the evaporator at the time of brazing the joint. Purpose of this is to eliminate any oxidizing on the interior of the copper tubing, and to maintain a non-oxidizing atmosphere so that the copper stays bright and shiny. The Norge engineer said that the company was experimenting with

the possibility of using an induction heating method for making these joints.

The production setup in using the No. 35 silver brazing alloy is as follows:

The parts that are to be joined are inspected both for fit and cleanliness before going to the brazing operation. The operator applies the alloy in the form of a ring, brushes the flux on, and performs the heating operation.

The cleaning operation is performed at the time the evaporator is pickled in a nitric hydrofluoric acid solution which eliminates all flux and flux inclusions. After this operation the shelves are installed and the complete assembly is given a leak test using "Freon" gas and a General Electric leak detector.

Scharmer said that use of careful production techniques and the change in the evaporator design virtually eliminated difficulties in the form of carbide precipitation that sometime arise from heating type 302 stainless steel in the range 800°-1,000° F.

FACTORY REPRESENTATIVE REFRIGERATORS

To cover Southeastern U.S. and contact dealers, distributors, contract departments, ice cream and dairy manufacturers, frozen food distributors. Complete line commercial refrigerators, including many fast-moving promotional numbers. Old, well-established, highly rated, nationally known and advertised. High earnings, permanent connection, for a good man. All replies confidential.

Address Box 3073, Air Conditioning & Refrigeration News

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ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

WEST COAST sales representative now available to manufacturer of quality refrigerated cabinets or equipment on full-time basis. Broad, seasoned and successful experience in all departments of profitable sales volume through well established distributors and dealers in California, Arizona and Nevada. E. W. JONES, 800 Florencia Terrace, Altadena (Pasadena), California.

DO YOU have a help problem? Let us solve yours. Available—well trained selective men. These men have completed a course of 34 weeks consisting of practical shop refrigeration. Send for our records. Well trained men for a good job. Available for all parts of the country. THE ST. LOUIS SCHOOL FOR ELECTRICITY & REFRIGERATION, INC., 6767 Southwest Ave., St. Louis 17, Mo.

EXECUTIVE ENGINEER: twelve years experience in field of refrigeration and air conditioning. Proven ability in organization and administration. Able to inspire loyalty and co-operation. Desires to apply technical background to broader field than strictly technical. University engineering graduate—age 38. BOX 3070, Air Conditioning & Refrigeration News.

REFRIGERATION, AIR conditioning work. Experienced in domestic and commercial. Service, installation, trouble shooting. Know electricity and carbonators. Five years experience and capable of handling shop. High school and technical school graduate. Age 29, now employed. Southwest or west locality. References on request. BOX 3077, Air Conditioning & Refrigeration News.

GRADUATE REFRIGERATION and air conditioning engineer with four years experience in service and installation of commercial equipment, wishes position as assistant engineer with large sales & service company, or old reliable manufacturer. BOX 3078, Air Conditioning & Refrigeration News.

ME GRADUATE under 30 with over 5 years experience in refrigeration design for one of the leading manufacturers interested in a change to similar work. Past experience has been principally heat transfer and design of small refrigeration systems, plus some cabinet design. Write BOX 3080, Air Conditioning & Refrigeration News.

SALES ENGINEER—in the refrigeration industry over 20 years—45 years old—experienced in sales engineering as well as practical service problems. Capable of handling small or large commercial refrigeration and air conditioning. Hold executive position in the north at present and desire to make change to southeast or southwest. Can furnish excellent references as to ability and character. Available March or April. BOX 3081, Air Conditioning & Refrigeration News.

MANUFACTURERS' REPRESENTATIVE, with established clientele in Ohio, western Pennsylvania, West Virginia and Kentucky, would like to hear from manufacturers of complete line of top quality commercial refrigeration equipment or high grade specialty desiring coverage of distributors and dealers. Years of experience in display cases, reach-ins, walk-in coolers and freezers. BOX 3082, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

ASSISTANT BRANCH manager needed for wholesale refrigeration supplies warehouse. Must have refrigeration engineering experience. Good salary, profit sharing plan, ideal conditions. Replies must contain complete personal information. Write to: F. H. LANGSENKAMP COMPANY, 229 E. South Street, Indianapolis 4, Indiana.

OPPORTUNITY FOR dairy equipment salesmen calling on refrigeration dealers. We need representatives in several territories. Agent should have kindred but not competitive lines. Product—outstanding packaged aerator milk cooler for farm use. In first letter give references and territory now traveling. STAR PUMP & COOLER CORPORATION, 1218-24 N. 15th St., St. Louis 6, Mo.

DISTRICT SALES manager for manufacturer of air conditioning equipment, for territory consisting of Michigan, Indiana, Ohio, Kentucky and West Virginia. Right man should have air conditioning background, preferably with a manufacturer, and experience in handling dealers and distributors. This position calls for a \$10,000.00 a year man. In reply, give age and full details of background. BOX 3083, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

SEALED UNITS rebuilt and exchanged. Prompt service on Coldspot (sealed & semi-sealed), Chieftain, Gale, Tecumseh, Norge and many others. One year guarantee. Write for price list and shipping instructions. BRIGHTON, 3906 Joy Rd., Detroit 6, Michigan.

FOR SALE: 1 Super-Cold model 500 FR ice cream freezer; 5 gallon, 2 HP, 110/220, single phase, water cooled compressor. 1 Super-Cold model 200 FR ice cream freezer; 2 1/2 gallon, 1 HP, 110/220, single phase, water cooled compressor. DETWEILER BROS., INC., P.O. Box 870, Twin Falls, Idaho.

FOR SALE 3-HP water cooled, "Freon" Copeland machines with 3-HP 3 phase motors \$248.00 each. Ten model 495 5-HP Copeland water cooled "Freon" machines equipped with 26 Copeland compressors and 5-HP 3 phase motors \$278.00, all F.O.B. Kansas City, Missouri. These machines are brand new in original Copeland crates and carry the one year factory guarantee. 10% deposit required with all orders, balance C.O.D. THE NAT CORPORA-TION, 2710 McGee, Kansas City, Missouri.

NEW THERMOSTATIC expansion valves: Sporlan Stand. 1/2 T M 3/4 x 1/2 \$5.50 each. Sporlan Stand. 1/2 T F 3/4 x 1/2 \$5.50 ea. Detroit 893 1/2 T F30 10" super 1/4 x 1/4 P. \$4.50 ea. Detroit non-adj. 893 X 1/2 T F15 3" super 1/4 x 3/8 for home freezers or domestic \$1.50 ea. Chieftain Hermetics (new) 1/4 HP \$42.00 ea., without condenser \$39.00, in lots of 10—\$37.00 ea., in lots of 10 less condenser \$34.00 ea. Seals, GE compressor parts and fittings at 1/2 price. Send for scandal sheet. NORTHLAND REFRIGERATION COMPANY, 1742 Wabansia Avenue, Chicago 22, Illinois.

SUBJECT TO prior sale: Hermetic Chieftain units—1/4 H. P., \$44.50; 1/2 H. P., \$48.50. Other well known hermetics: 1/4 H. P., fan cooled, \$52.50; 1/2 H. P., fan cooled, light duty, \$57.50; 1/2 H. P., fan cooled, heavy duty, \$59.50; 1/2 H. P., fan cooled, \$69.50. Open units, standard makes: 1/4 H. P., \$54.50; 1/2 H. P., \$64.50; 1/2 H. P., \$84.50. Above prices quoted on lots of six. All open units are 60 cycle, single phase. All above units new, carrying factory warranty. Write for unit list. Penn type 260 Apol low pressure control, \$4.25. Penn type 262 Apol high pressure control, \$4.25. Minneapolis-Honeywell dual pressure control, \$4.50. Detroit Lubricator low pressure control, \$4.25. G. E. blower fan motor with 10" fan, \$4.50. Superior heat exchanger, 13" over-all, 3/4 x 1/4, \$4.25. Mueller heat exchanger, 14 1/2" over-all, 3/4 x 1/4, \$5.00. Kramer Trenton panel blower complete, 1/2 ton, \$30.00. Superior master drier 1/4" flare x 1 1/4" x 5 1/2", 75¢. U. S. "Freon" gauge, 4 1/4" face, 30" vac., 150# or 300#, with corresponding temp. scale with red warning hand and mounting holes, \$4.50. Scientific Instrument Co. dial thermometer, 4 1/4" face, minus 40 to plus 120, 5 ft. tube, \$4.50. 1 set U. S. "Freon" gauge, 2 1/4" face, 100# compound and 300# pressure, temp. scale, recal. and mounting holes, \$3.50. Ranco type KW-412 cold control complete, \$4.00. American Injector oil separator, 1/4 ton, \$3.50. Cold plates 1—30" x 55", 2—30" x 64", 3 to a set, \$35.00. 6—5 lb. cans Davison refrigeration silica gel, \$5.00. 1—5 lb. can Davison refrigeration silica gel, \$1.10. Crouse-Hinds vapor proof refrigerator light, with guard, \$2.50. WALTER W. STARR, 1207 George Street, Chicago 13, Illinois.

BEAUTIFULLY DESIGNED and equipped sea food, salad, & cocktail bars. Occupies less than six square feet of floor space. Wired for illumination. Sturdy stainless steel, chrome and glass. Equipment includes beautiful chrome and glass serving accessories for forty-eight. Hundreds sold for \$1040.00; few remaining, \$995.00. Orders accepted subject to prior sales, literature upon request. BOX 3056, Air Conditioning & Refrigeration News.

PYROMETER, ALNOR type 4200, range 0-300° F. Serial # with automatic cold end compensator. Alnor type 4220 flexible extension arm. Alnor type 4040 thermocouple. This instrument is in excellent condition: \$80.00. Original cost in 1946: \$131.50. BOX 3079, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

MANUFACTURERS: I have a control, with patent pending, for complete automatic defrosting device for locker plants and low temperature rooms; is simple in construction, positive in action. Entirely revolutionary in principle. Has outstanding selling points. If interested in manufacturing on a royalty or cash basis contact HARVEY HOLLOWAY, 509 E. Boeing Dr., Oklahoma City 10, Okla.

MIAMI, FLORIDA—a leading refrigeration, air conditioning, television, and appliance sales and service establishment—in same Miami location ten years. Grossed \$150,000 and netted \$20,000 last year. Will sell for \$7,500 to cover truck, equipment, and improvements plus merchandise inventory at cost—about \$3,000. BOX 2292, Air Conditioning & Refrigeration News.

FOR SALE, domestic and commercial refrigeration business in southeastern Arizona. Have General Electric and Federal lines of equipment. Owner has other interests. BOX 3075, Air Conditioning & Refrigeration News.

PARTNER WANTED: refrigeration mechanic, German-American, 45 years of age, 8 years experience in domestic & commercial refrigeration; also 15 years experience on A.C. & D.C. motors including 6 years technical school training. BOX 3076, Air Conditioning & Refrigeration News.

MISCELLANEOUS

THIS YEAR alone we have rebuilt for leading commercial refrigeration companies 10,000 expansion valves and 15,000 dehydrators. Have we had comebacks? Certainly, but darn few. Price list for rebuilding your dehydrators: 1/2 ton dryers, 90¢; 1 ton, \$1.10; 2 ton, \$1.60; expansion valves, \$3.25—90 day guarantee. Let us buy your old expansion valves, coils, dehydrators. ALLEN REFRIGERATION PRODUCTS CO., 3074 Park Ave., Bronx 51, N. Y.

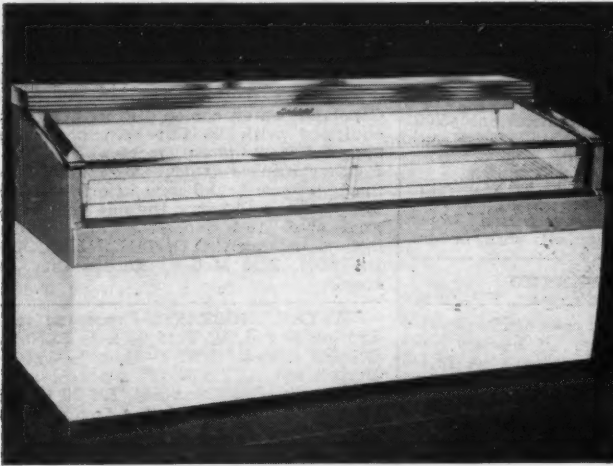
NON-REFRIGERATED MODULE super-market fixtures, complete line. District men—give your refrigeration dealers and chain operators a complete store engineering service with a quality line of module engineered fixtures. Factory trained store planning and installation service available exclusively to you and your customers. Our salesmen are informed of this advertisement. Reply BOX 3068, Air Conditioning & Refrigeration News.

INTERESTED IN MANUFACTURING COILS?

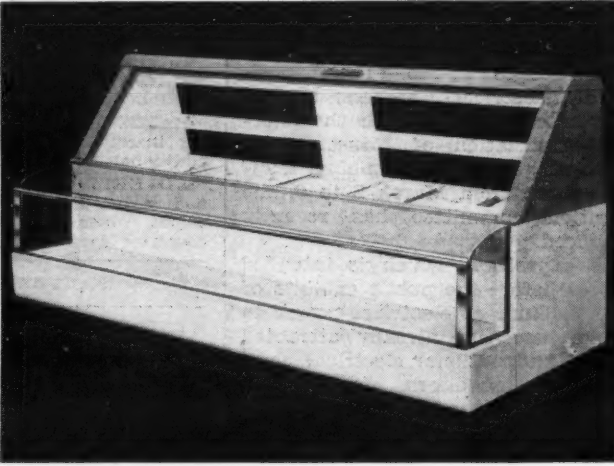
Manufacturer has coil assembly machines available on exclusive franchise basis. Ties in with nationally known complete line of low sides. Engineering, technical know-how, materials, catalog, all furnished. Nominal investment required. Exceptional opportunity.

Write Box 3074, Air Conditioning & Refrigeration News

These New Commercial Meat Display Cases Were Shown by McCray Heating Show, ASHVE Meeting Start--



Model GJ-8 self-service meat case.



Model GQ-8 combination service and self-service case.

300 Distributors Attend McCray Meeting--

(Concluded from Page 1, Column 3) Roberts" and from radio soap-opera casts.

John Hart, executive vice president; R. J. Rehwinkel, sales manager; W. V. Herr; W. L. Herald; R. E. Abbott; George Bentley; and other McCray officials assumed their roles in the dramatic presentation.

New models on which special emphasis was placed at the distributor convention were a self-service, single-duty meat display case, filled from the rear, and a combination service and self-service case.

The model GJ-8 self-service meat case has a shelf in top position which is 35 in. off the floor at the front. Thus, it is easy for the customer to see the product and price, and to reach what he wants.

Shelves can be adjusted to eight different positions. There is 20 cu. ft. of refrigerated area in the case. It can be filled from front or rear. The top is stainless steel. Price tag rail is on the front edge of the top, right in the line of vision. When two or more cases are connected together, a continuous display is provided.

Cooling is accomplished by enveloping the product in a stream of controlled cooled air, a method developed

and patented by McCray, the company claims. The method is described as follows:

There are three rows of louver outlets at the back in addition to the top outlet. These louver outlets are designed so that when the shelves are in the two lower positions the cold air is directed down on them. In all the other positions of the shelves one or more louvered outlets is underneath the shelf, thus allowing refrigeration of the shelves from below as well as above, thus promoting uniform temperatures.

The cooled air is forced out the openings on the back wall and drawn across to openings in the front flue walls. One set of openings is near the bottom. Only a limited quantity of the air can be pulled through these bottom openings.

As the shelf is lowered the amount of refrigeration to refrigerate the space underneath the shelf is decreased. On the other hand, as the shelf is raised, the amount of refrigeration to refrigerate underneath the shelf is increased. This is automatically compensated for by the outlet louvers at the back thereby pulling in additional volume of air up through the slotted shelving and into the 3/4-in. flue at the front.

The combination service and self-service case is designed primarily for the small store where floor space is limited. The service display area would probably carry the fresh meat items, while the self-service section could be used for dairy products, cold meats, etc. Combination of these items in the same case can help impulse buying, McCray believes.

Both sections can be operated from one condensing unit, with a 3/4-hp. unit handling an 8-ft. case. Refrigeration is of the McCray "Koldflo" type.

Shelf in the self-serve section is 9 1/2 in. off the floor. Height of the front glass is 14 1/4 in. Shelf area is approximately 12 sq. ft., and the capacity approximately 11 cu. ft. The case matches the regular line in styling. The self-service section is removable.

(Concluded from Page 1, Column 3)

The exposition will be open until 10 p.m. the first day with the hours being from noon to 10 p.m. the rest of the week through Friday, Jan. 28. As in the past, attendance at the show will be limited to the trade, visitors merely being required to sign registration cards for the purpose of admission.

The list of exhibitors, which was published in last week's NEWS, includes manufacturers of self-contained and remote type air conditioning equipment of all types as well as the numerous components that make up central type air conditioning installation. Majority of exhibitors are in the heating and ventilating field.

For the convenience of visitors attending the exhibition, a special shuttle bus service is being arranged between loop hotels and the International Amphitheatre, which is located outside the loop area of Chicago.

An attendance of nearly 2,000 is expected by officers of the ASHVE at the society's meeting, which schedules five technical sessions during which 14 papers are to be presented.

These sessions are planned for Monday morning, Tuesday morning, Wednesday morning and afternoon, and Thursday morning. Luncheons are also scheduled for Monday and Tuesday, an informal party Monday evening, and the annual banquet which is scheduled to be held Wednesday evening.

Among the papers to be presented are "The Internal Performance of an Induced Draft, Packed Cooling

Tower," "Heat Transfer Rates for Refrigerant Boiling in Horizontal Tube Evaporators," "Psychrometric Factors in the Air Conditioning Estimate," "Turbulence in Air Distribution," "Air Distribution and Draft," "Adjustment and Balancing of the Air Delivery Through a System of Manifold Air Diffusers," and "Physiologic Adjustments of Normal Subjects and Cardiac Patients to Sudden Change in Environment."

In addition there will be papers on panel heating and other phases of heating.

Regular society business scheduled for this ASHVE meeting includes the election of officers. Candidates are, for president, A. E. Stacey, Jr.; for first vice president, Lester T. Avery; for second vice president, L. E. Seeley; for treasurer, Ernest Szekely, in addition to several candidates for positions on the council and the committee on research.

Minneapolis-Honeywell Post Resigned by Warne

MINNEAPOLIS—Roy H. Warne, formerly general sales manager for the Moduflow division of Minneapolis-Honeywell Regulator Co., has resigned and joined the sales staff of Investors Syndicate, Minneapolis investment firm.

Warne, who started with Honeywell as sales promotion manager and had been with the firm eight years will be connected with the Minneapolis office of Investors Syndicate, according to Grady Clark, general sales manager.



Are You BEHIND THE EIGHT BALL?

Even worse . . . are you behind the eight ball and don't know it.

It's like this. You're pretty good . . . see? You have a lot of refrigeration and air conditioning savee. Plenty of English on the sales end . . . an eye like Hoppe when it comes to lining up an installation . . . service jobs in the pocket every time. You should rack up plenty of profit at the end of the year. But you don't . . . something is sour . . . you're banking the ball but not the bankroll. Here is your cue to do something about it. Try specifying products that *help* instead of *hinder* . . . products that are designed right, engineered right and built right . . . products that have enough experience, know-how and research behind them to keep both you and your customers happy and smiling. BUSH Heat Transfer Products are AVAILABLE NOW through refrigeration and air conditioning wholesalers everywhere. Buy the Best . . . and the Best is BUSH.



THE BUSH MANUFACTURING COMPANY
WEST HARTFORD 10, CONNECTICUT



L. FRANK BROWNSON



R. J. SARGENT

Westinghouse Names Brownson, Sargent--

(Concluded from Page 1, Column 5) fills," Newcomb said, "unites our present refrigerator, range, laundry equipment, and water heater-kitchen utilities departments into a stronger full-line sales approach."

"The position was created to meet a need in our sales organizations created by the heavy volume of our appliance division. Brownson's responsibility will be to get a strengthened coordination of product development, distribution, advertising, and promotion for all major appliances. The new post in no way affects the structure or responsibilities of these individual departments as they are now organized."

Brownson is relieved of his duties as manager of the laundry equipment department. He will be succeeded by R. J. Sargent, merchandise manager of laundry equipment. Both appointments are now effective.

Brownson began his career in the electric appliance division as a house-to-house salesman for refrigerators. In 1933, he joined the Canadian Westinghouse Co. where he directed refrigerator sales activities and later handled the complete line of Westinghouse products, including

radios. He joined the Mansfield headquarters sales staff in 1940 as manager of the laundry equipment department.

Sargent, a native of Cleveland, attended school at Mantua, Ohio, and at Hiram college, Hiram, Ohio. He joined the Westinghouse Electric Supply Co. in 1936 in Indianapolis, and in 1939 joined the Westinghouse electric appliance division sales office in that city. He was transferred to the district office in Omaha, Neb., in 1940, and in 1944 joined the headquarters staff at Mansfield as merchandise manager of the laundry equipment department.

500 Porcelain Steel Men Return to Work

CLYDE, Ohio—About 500 of the 800 workers laid off by Clyde Porcelain Steel Corp. on Dec. 10 were ordered back to work recently, the company has announced.

The plant shut down at that time for a general inventory and because of a shortage of parts, official said. It was idle for about five weeks.